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ABSTRACT

In spring of 2000, about 70 teachers and their students in a northeastern school district completed surveys about Dimensions of Learning practices and outcomes. Dimensions of Learning is a comprehensive approach to teaching and learning developed over a 10-year period (R. Marzano, 1992). Survey items focused on Dimensions 1 (attitudes and perceptions) and 5 (habits of mind). Results reflected teachers' self-assessed level of use for practices from Dimensions 1 and 5, classroom mean ratings of intended outcomes of Dimensions 1 and 5 as reported by students, and possible linkages between the two. Teachers on average demonstrated advanced levels of implementation for Dimension 1 practices, but they demonstrated only beginning levels of use for Dimension 5, developing students' habits of mind. Students reported qualities associated with Dimension 1 to a moderate or great degree, but reported moderate qualities associated with Dimension 5 only in the upper grades. Recommendations are made for evaluating the other dimensions and for examining the practices and qualities associated with Dimensions 1 and 5 with a larger sample. Three appendixes contain the surveys, the items used to measure the practices related to the dimensions, and graphs of survey responses. (Contains 13 tables, 3 figures, 8 graphs, and 18 references.) (SLD)

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Dimensions of Learning Evaluation for Kirkland School District

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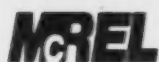
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EXECUTIVE SUMMARY

In Spring of 2000, about 70 teachers and their students in a district in the northeast completed surveys about Dimensions of Learning practices and outcomes. Survey items focused on Dimensions 1 (Attitudes and Perceptions) and 5 (Habits of Mind). Results reflected teachers' self-assessed level of use for Dimension 1 and 5 practices, classroom mean ratings of intended outcomes of Dimensions 1 and 5 as reported by students, and possible linkages between the two.

On a 5-point level of use scale, teachers tended to report higher levels of use for Dimension 1 practices than for Dimension 5 practices. For Dimension 1 practices (e.g., create valuable tasks, comfort and order, and feelings of acceptance), teachers on average rated themselves at or above level 4 ("I have used this strategy often and adapted it for various teaching situations"). For Dimension 5 practices (e.g., facilitate discussions about habits of mind, use think-aloud to demonstrate habits of mind), teachers on average rated themselves at levels two and three ("I plan to use this strategy or have used it once or twice" and "I have used this strategy often, but have not yet adapted it for various teaching situations"). The more advanced levels of use for Dimension 1 practices are consistent with informal observations of district staff. The evidence indicating beginning stages of Dimension 5 use is consistent with the challenges of implementing Habits of Mind as identified by model developers (Marzano, 1992).

The extent to which students reported outcomes associated with Dimension 1 was moderate to great. Across all grade levels, students perceived expectations for performance as clear. Perceptions of classroom tasks as valuable were also positive, but rated lower than Clarity of Expectations. Students made moderately positive reports about classroom climate, including agreement that classrooms had accepting environments, cohesiveness, and comfort and order. The extent to which students reported Habits of Mind, Dimension 5, was moderate at the middle and high school levels. Students on average indicated that they were up-to-date on assignments, set goals, and worked hard to get good grades. At the elementary school level, no reliable measures of Habits of Mind were found.

Evidence linking Dimension 1 and 5 teaching practices with student outcomes was limited to certain schools/grades. At Franklin (grades 3-5), higher levels of use for practices aimed at being clear about tasks (Dimension 1) was linked with higher student ratings for clarity of expectations and satisfaction with schoolwork (Dimension 1). For Dimension 5, at Turner (grades 9-12), higher student ratings for habits of mind (e.g., "I try to make connections between various ideas in what I'm studying" and "I test myself to be sure I know the material") were linked with higher levels of use for both Dimension 1 and 5 practices, namely, creating positive learning environments and boosting student attitude toward tasks and one's abilities (Dimension 1) and developing student understanding of and reinforcing student use of Habits of Mind (Dimension 5). Inverse relationships between level of use of practices and student creative thinking suggested the need to consider possible unintended consequences of implementing some Dimensions practices.

Finally, cautions are presented about the preliminary nature of the results and appropriate uses of the results are identified. Recommendations are provided for further instrument development and study of the implementation and impact of Dimensions of Learning.

PURPOSE OF THE EVALUATION

The purpose of this evaluation was to examine the implementation and impact of Dimensions of Learning, in particular, Dimensions 1 and 5, in a school district in northeastern United States. Dimensions of Learning (DOL) is a comprehensive approach to teaching and learning developed over a 10 year period beginning with a review of research on learning and thinking (Marzano, 1992). The research review was followed by model development and field trials of the training program (Marzano, Pickering, Arrendondo, Blackburn, Brandt, Moffett, Paynter, Pollock & Whisler, 1997). As a comprehensive model, DOL is applicable across all content areas and grade levels. DOL helps unify a school's or district's approach to education by establishing a common language for its technical core, namely, teaching and learning. DOL users, especially McREL trainers and researchers, are interested in the value of DOL as an approach to teaching and learning ambitious content standards.

The potential of DOL as a K-12 approach for implementing ambitious content standards lies in its identification of the essential qualities of effective teaching and learning. These qualities are organized around the five dimensions of DOL. Dimensions 1 and 5 identify the qualities of educational environments and practices that are essential to developing and supporting positive attitudes and productive habits for life-long learning. Dimension 2 identifies declarative and procedural content standards as an effective way to organize curriculum. Dimensions 3 and 4 identify the essential qualities of classroom instruction that allow students to master ambitious content standards. The five dimensions of DOL are:

- Dimension 1: Attitudes and Perceptions
- Dimension 2: Acquiring and Integrating Knowledge
- Dimension 3: Extending and Refining Knowledge
- Dimension 4: Using Knowledge
- Dimension 5: Habits of Mind

Dimensions 1 and 5 tend to deal more with the affective and interpersonal aspects of learning while Dimensions 2, 3 and 4 tend to deal more with the cognitive aspects of learning. Dimension 2 (Acquiring and Integrating Knowledge) teaches the use of strategies that familiarize students with new knowledge and skills. Dimension 3 (Extending and Refining Knowledge) teaches strategies to clarify, solidify, and develop ownership of new knowledge and skills. Dimension 4 (Using Knowledge) teaches students how to control new knowledge and skills and effectively apply them to multiple in-school and out-of-school tasks and roles.

Prior evaluations of DOL showed that teacher concerns shifted with one or two years of DOL training, but student performance did not necessarily improve (Scanlon, 1997; Tarleton, 1992). With DOL training, teacher concerns about DOL shifted from awareness issues, getting to know and understand DOL, to implementation issues, how to use DOL strategies in the classroom. Significant impact on student performance was found only in the Tarleton (1992) study with a school involved in a DOL consortium. The consortium provided two consecutive years of training that involved 1 hour weekly study team meetings and occasional classroom modeling of DOL implementation from a DOL leader. Significant improvements were found on 4th grade science and social studies unit

tests. In contrast, in the Scanlon (1997) study, teachers received five traditional training sessions on DOL over a one-year period and no significant impact was found on standardized test student performance in language use and mathematics. In neither study, however, were classroom practices systematically observed or measured for evidence of teachers' use of DOL.

Regarding Dimensions 2, 3 and 4, in particular, Fisher and Horton (1983) studied classroom DOL practices. Fisher and Horton (1983) examined the classroom practices of 4th and 5th grade teachers who had been working with DOL for three years. The DOL trained teachers were more likely than the non-DOL trained teachers to engage students at high cognitive levels. They conducted such activities as experimental inquiry, elementary data analysis and interpretation, simulations, and activities that asked students to extend and summarize knowledge. In addition, the DOL-trained teachers tended to act as metacognitive coaches for students, asking students for evidence to support their statements and answering student questions with questions; in contrast, the non-DOL teachers tended to act as content experts, interpreting and presenting knowledge for students rather than teaching students how to interpret it themselves (Fisher & Horton, 1983).

Furthermore, in another study, high school students with DOL trained teachers performed at significantly higher levels than students without DOL trained teachers on tests of scientific thinking (Thompson, 1999). Moreover, the effects on student performance were greater as teachers' years of experience with implementing DOL increased (Thompson, 1999).

In addition to changes in classroom practices and student outcomes, prior research has documented changes in a district's professional culture. Teachers adopting DOL in a suburban district reported that they valued the common language that had been developed for talking about teaching and learning (Cooper, 1996). None of the prior research and evaluation, however, examined classroom implementation and impact of DOL district wide, across all grades K-12. One purpose of this study, then, was to begin examining the feasibility of a system designed to evaluate implementation and impact of DOL across grades K-12.

DISTRICT CONTEXT

The district for this study is in a coastal community in the northeastern United States. The district serves 1,180 students in four schools: Morgan Elementary School, grades K-2; Franklin Elementary School, grades 3-5; Sutton Middle School, grades 6-8, and Turner High School, grades 9-12. The district began adopting DOL, district wide, in the summer of 1998. A core group of DOL leaders was trained at a summer DOL institute followed by training for all teachers from a DOL consultant who worked with the district. Additionally, all DOL leaders have completed advanced DOL training, and thus, are qualified to and do train others. The district is fully committed to incorporating DOL into its educational philosophy, culture and practice. A DOL design team is leading the effort with teacher leaders and principals from each building on the team along with district administrators and a collaborative planning and action process being used to move implementation forward. Professionally produced posters on DOL are displayed in school buildings. Newly hired teachers receive training in DOL during the beginning of their first year. Professional development for DOL is ongoing through annual, district wide fairs and school-specific faculty study

groups that meet regularly as Critical Friends, in some cases since 1998.

In search of an evaluation system to help monitor and guide their use of DOL as a district wide framework for enhancing teaching and learning, district officials requested assistance from McREL in September, 1999. A contract of services from McREL to the district was agreed upon with a preliminary focus on evaluating the implementation and impact of Dimensions 1 and 5 which was the focus of the district's implementation of DOL during the 1998-1999 and 1999-2000 academic years. For this purpose, McREL researchers designed data collection tools based on the underlying constructs of Dimensions 1 and 5 and the process of innovation adoption as conceptualized by Hall, Loucks, Rutherford, and Newlove (1975).

Hall et al. (1975) posited that teachers demonstrate discrete levels of use of an innovation as they adopt it over time. These levels range from lack of knowing that the innovation exists to an active sophisticated and highly effective use of it. Normally, according to Hall et al. (1975), teachers develop effective use of an innovation after four or five cycles of its use, moving through an initial stage of orientation to the innovation, to a stage of managing its use in day to day practice, to adjusting its use based on student feedback, and finally, to a stage of integrating its use and increasing its impact beyond one's immediate sphere of influence.

For the majority of district teachers, the 1999-2000 school year was the second year of DOL implementation, with a focus on Dimensions 1 and 5. District officials reported, however, that teachers in grades K - 2 were furthest along in DOL implementation. Evidence consistent with this report would confirm DOL leaders' identification of needs and strengths and build confidence around plans for next steps. Moreover, such results would lend validity to data collection tools designed for this evaluation. Accordingly, teacher surveys for the study were designed to incorporate Hall's et al. (1975) levels of use in a measure of teachers' level of use of Dimension 1 and 5.

This evaluation was designed to answer three questions:

1. What level of use do teachers report for Dimension 1 and 5 practices?
2. To what extent do students report Dimension 1 and 5 outcomes?
3. To what extent are teacher levels of use for Dimension 1 and 5 practices related to corresponding Dimension 1 and 5 student outcomes?

To answer these questions, all teachers and students in the district were surveyed about Dimensions 1 and 5. To measure teacher level of use for Dimension 1 and 5, relevant strategies for each were identified in the DOL teacher's manual and served as the basis of survey items. To each item, teachers responded by rating their level of use for the strategy named in the item. To measure student perceptions and attitudes toward classroom and tasks (Dimension 1 outcomes), a combination of available classroom climate surveys and DOL trainer/researcher developed items were used. To measure student habits of mind (Dimension 5 outcomes), DOL trainer/researcher developed items were used to construct surveys for grades K-8; and for grades 9-12, a learning strategies and skills inventory was used. Student data were aggregated by classroom and merged with teacher data by matching teacher identification numbers. It was hypothesized that as teacher level of use increased for Dimension 1, student perceptions and attitudes toward classroom and tasks

would become more positive; likewise, as teacher level of use increased for Dimension 5, student use of habits of mind would increase in frequency.

METHODOLOGY

Sample

Teachers. In April, 2000, more than 70 teachers in the district completed the *DOL Self-Assessment Survey*; of these, there were 64 teachers for whom complete information was available allowing teacher responses to be linked to student responses from their classrooms. Table 1 shows how this final sample of teachers was distributed across the district in terms of role, years of employment and experience, and grade level assignment. The district is composed of four schools each at a different grade level. As can be seen in Table 1, the majority of teacher respondents (84%) were classroom teachers. There were near equal proportions of new and experienced teachers (34% with one to three years in their present position and 37% with over 16 years of experience).

Table 1.
Kirkland DOL Study (Spring, 2000) Teacher Sample.

Characteristics		School				
		Morgan (gr K-2) (n=14)	Franklin (gr 3-5) (n=11)	Sutton (gr 6-8) (n=19)	Turner (gr 9-12) (n=20)	All (%) (n=64)
Teacher Role	Classroom Teacher	14	8	15	15	84%
	SpEd Teacher	0	0	0	3	5%
	Certified Staff (other than teacher)	0	1	3	1	8%
	Ed. Tech.	0	1	0	1	3%
Years employed in Present Position	1-6	6	4	8	10	45%
	7-10	1	0	2	1	7%
	11-15	3	2	1	1	11%
	16 or more	4	4	7	8	37%
Years of Teaching	1-6	5	2	4	5	27%
	7-10	1	1	0	3	8%
	11-15	3	1	2	0	10%
	16 or more	5	6	11	12	56%

Students. At Morgan (grades K - 2), there were a total of 314 student surveys collected with some students completing the survey twice, once for the regular classroom and at least once for one

special, such as Art. When data were aggregated by classroom, there were 16 classrooms, including from 12 to 20 students in each: 6 kindergarten (some morning only; some afternoon only), six 1st grade, and four 2nd grade.

At Franklin (grades 3 - 5), there were a total of 367 student surveys collected with some students completing the survey twice, once for the regular classroom and at least once for one special, such as Art. When data were aggregated by classroom, there were 19 classrooms, including from 14 to 38 students each: six 4th grade classes, six 5th grade classes, six 6th grade classes, and one class for which grade level was unknown.

At Sutton (grades 6-8), there were a total of 233 student surveys completed and collected. When aggregated by classroom, there were 14 classrooms, including from 12-21 students each, in the content areas of language arts and reading, social studies, science, and math.

At Turner (grades 9-12), there were a total of 215 student surveys collected. When aggregated by classroom, there were 21 classrooms, including from 1 to 17 students. Many of the classrooms had mixed grade levels, with students completing them in several math, science, English, and history classes as well as a music, computer, and a home economics class.

Data Collection

Teacher survey. The teacher survey requested demographic information, a self-assessment of level of use of Dimension 1 and 5 strategies, and responses to open-ended questions regarding supports and barriers to implementation of Dimensions 1 and 5. A copy of the teacher survey is provided in Appendix A. When teachers completed the survey, they signed an informed consent form that was assigned an identification code. This was returned to the researcher and used to link teacher data to student data from his or her classroom.

Survey items regarding use of Dimension 1 strategies were based on suggested practices in the *Teacher's Manual* (Marzano, et al. 1997) and included both general statements (e.g., "Recognize and provide for students' individual differences" (Marzano et al. 1997; p. 18)) and specific statements (e.g., "Talk informally with students before, during and after class about their interests" (Marzano, et al. 1997; p. 16)). For each item, teachers rated themselves on a 5-point, level of use scale:

- 1 - I have not used this strategy.
- 2 - I plan to use this strategy or have used this strategy once or twice.
- 3 - I have used this strategy often, but have not yet adapted it for various teaching situations.
- 4 - I have used this strategy often, and adapted it for various teaching situations.
- 5 - I have used this strategy often, adapted it for various teaching situations, and encouraged its use by parents, teachers, or others.

Survey items pertaining to Dimension 1, developing positive Attitudes and Perceptions, were organized and presented in five sets corresponding to sets of Dimension 1 strategies presented in the

Teachers Manual. The five sets were:

- A. Create Valuable Tasks (9 items)
- B. Develop Student Efficacy (Help Students Believe they have Ability and Resources) (7 items)
- C. Be Clear about Tasks (4 items)
- D. Create Comfort and Order (8 items)
- E. Create Acceptance by Teachers (10 items) and Peers (7 items)

Survey items pertaining to Dimension 5, developing productive Habits of Mind, were organized and presented differently. First, a reminder was provided defining and listing examples of Habits of Mind. Items then asked teachers what percent of their teaching time they spent on each of the three general Habits of Mind: Critical Thinking, Creative Thinking and Self-regulated Thinking. These items were followed by 16 strategy items. For each item, teachers indicated their level of use with the same response options as were used for the Dimension 1 items. The Dimension 5 items identified habits of mind in general without differentiating critical, creative and self-regulated thinking. The Dimension 5 items were organized and presented as three sets corresponding with their presentation in the *Teacher's Manual*:

- A. Develop understanding of habits of mind (7 items)
- B. Model habits of mind (2 items)
- C. Reinforce and strengthen habits of mind (7 items)

Student surveys.¹ To measure Dimension 1, a combination of class climate surveys and DOL trainer/researcher developed items were used. Selected classroom climate surveys were instruments developed to assess learning environments in science classes, elementary through secondary school, and had acceptable reliability and validity evidence. Only DOL trainer/researcher items were used in grades K-2. The My Class Inventory (MCI) (Fraser & Fisher, 1983) was selected for use in grades 3 - 5. The Individualized Classroom Environment Questionnaire (ICEQ) was selected for use in grades 6 - 8. The Classroom Environment Scale (CES) was selected for grades 9 - 10. According to Fraser and Fisher (1983), each of these three surveys had acceptable reliability for a majority, if not all, of their scales based on Whitla's (1968) recommended criterion of an alpha reliability coefficient at or above .70 for use as a summary of scores for a group, in this case, per classroom. Moreover, the majority of the MCI, ICEQ, and CES scales had proven predictive validity for student affective and cognitive outcomes in science (Fraser & Fisher, 1983).

To measure student outcomes for Dimension 5, DOL researcher and trainer developed items were used for grades K - 8. For each grade level, K-2, 3-5, and 6-8, sets of items for each of the three Habits of Mind were developed: Critical Thinking, Creative Thinking and Self-regulation. At grades

¹ Written permissions to use and adopt published surveys for the present study were obtained from Barry Fraser for use of the MCI and ICEQ, from Consulting Psychologists for use of the CES, and from H&H Publishers for use of the *LASSI-HS*.

9-12, an inventory of student learning strategies (i.e., Learning and Study Strategies Inventory - High School Version (LASSI-HS), Weinstein & Palmer, 1990) was adopted for use. The LASSI-HS has 10 scales measuring clusters of learning strategies, study skills, and attitudes; nine of the 10 scales have alpha reliability coefficients above .70 and the remaining scale has an alpha of .68 (Weinstein & Palmer, 1990). The LASSI-HS content matches that of Dimension, namely, an emphasis on student responsibility for learning, persistence, self-evaluation and adjusting, and setting high standards and goals for oneself. According to one reviewer, the LASSI-HS has good content and construct validity but no reported concurrent validity (Williams, 1998). Copies of the surveys for students at each of the four grade levels are provided in Appendix A.

Scoring and Reliability

Teaching practices. Each Dimension 1 and 5 strategy item was scored as teachers responded on the 5-point level of use scale, with higher scores representing higher levels of use. For each of the six sets of Dimension 1 items and the three sets of Dimension 5 items, an average level of use score was computed to create six Dimension 1 level of use scores and three Dimension 5 level of use scores per teacher.

Alpha coefficients measuring internal consistency for sets of Dimension strategies were all above .70, which using Whita's (1968) recommended criterion of .70 for measurements that provide information about groups, demonstrate reliable enough measurement to compare level of use scores across schools. Using Whitla's (1968) recommended criterion of an alpha coefficient in the high 80's for measurements that provide information about individuals, five of the six Dimension 1 scores, and one of the three Dimension 5 scores demonstrate reliable enough measurement to compare level of use across individual teachers. Each of the six Dimension 1 and three Dimension 5 level of use scores, their alpha coefficients, and their items are listed in Appendix B. As indicated in Appendix B, however, a few of the level of use scores were based on slightly different sets of items depending on the grade level; for example, without detrimentally affecting the internal consistency, Item 21 ("allow activities with physical movement") was included in the Create Comfort and Order set of items for K-5 teachers, but not for grade 6-12 teachers.

Student outcomes. Student items and scales were scored as indicated by authors and presented on the surveys provided in Appendix A. To create a common response scale for student items across the four grade levels, 3-point scales were converted to 5-point scales (i.e., a value of 1 was recoded as 1, a value of 2 was recoded as 3 and a value of 3 was recoded as 5; CES scale scores based on true/false responses were recoded so that 94.4% - 100% of conditions true was recoded as 5, 83% - 94% conditions true recoded as 4, etc.). Alpha coefficients for the student measures ranged from .41 to .88. Except for the grades K-2 student measures with alpha coefficients of .41 for Class Tasks and .65 for Class Climate, the majority of student measures demonstrated reliable enough measurement (alpha coefficients above .70) to aggregate by classroom, providing information about individual classrooms as units. Each of the student measures, their alpha coefficients, and their items are listed in Appendix B.

RESULTS

Descriptive results are presented first indicating district overall and school-specific teacher level of use for Dimension 1 and 5 practices. Then, student reports of Dimension 1 and 5 qualities are summarized by school and relationships between teaching practices and student reports are described.

Teacher Level of Use for Dimensions 1 and 5

As can be seen in Figure 1, the average teacher level of use tended to be higher for Dimension 1 than for Dimension 5. Rounding up from 3.50, Figure 1 shows that the average level of use for all the Dimension 1 practices was close to level 4 ("have used often and adapted it"). In contrast, the average level of use for Dimension 5 was under level 3 ("have used often but have not yet adapted it") or close to level 2 ("plan to use or have used once or twice").

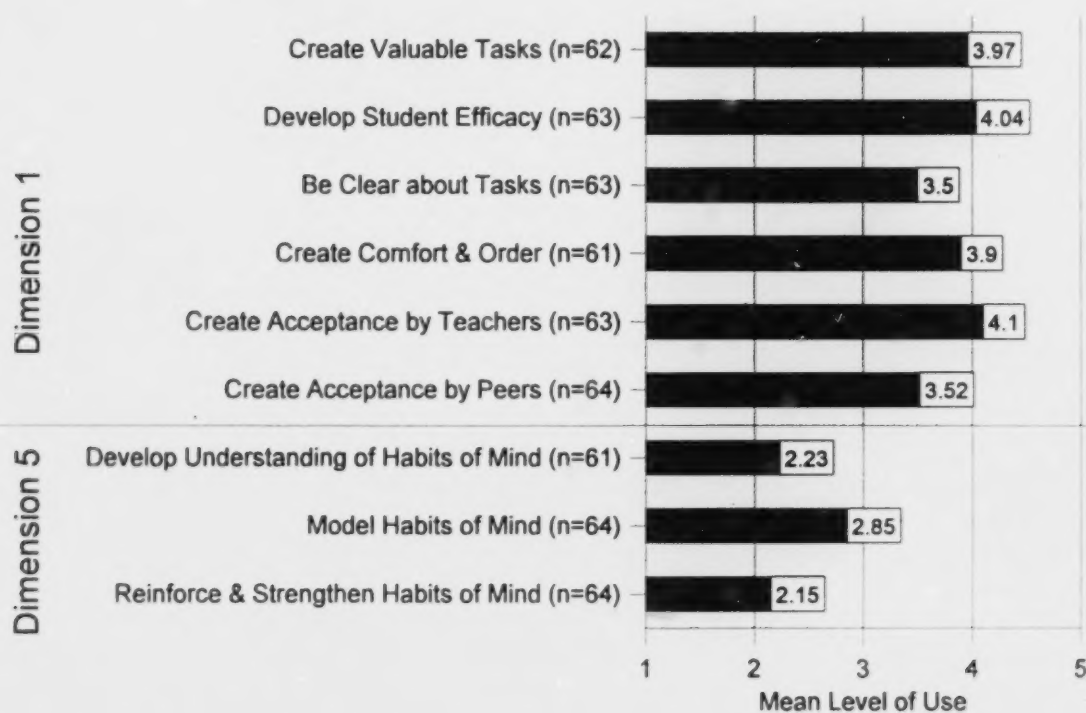


Figure 1. Mean Level of Use for Dimension 1 and 5 Teaching Strategy Sets.

Level of use was not significantly related to years of experience as an educator for any of the Dimension 1 or 5 practices. For one Dimension 1 practice, Develop Student Efficacy, statistically significant differences were found for subject area taught. At grades 6 - 12, specials teachers (i.e., Art and Home Economics) and Special Education teachers reported significantly higher levels of use

for Develop Self-efficacy than Math and/or Science teachers. This is consistent with the former teachers' responsibility for developing work and life skills and dispositions and the latter's responsibility for developing content knowledge. Of the four identifiable DOL leaders in the sample of teachers, only one individual (one of the more experienced teachers) reported levels of use that were higher than the district mean for all Dimension 1 and 5 practices. The least experienced teacher among these DOL leaders reported levels of use that were higher than the district mean for all but one Dimension 1 practice. The remaining two teachers among these DOL leaders (moderately to very experienced; both female) reported levels of use that were below the district mean for five of the nine Dimensions practices. Their lower ratings are consistent with other findings indicating difficult adjustment periods in the 2nd and 3rd years of a reform's implementation (Belcher and Fuhrman, 2000).

Statistically significant differences between schools were found for level of use on three of the six Dimension 1 practices (i.e., Create Valuable Tasks: $F(df\ 3, 58) = 4.48, p = .007$; Create Comfort and Order: $F(df\ 3, 57) = 3.42, p = .03$; Create Acceptance by Teacher: $F(df\ 3, 59) = 4.97, p = .001$). School-specific results for level of use are presented in Appendix C in relation to particular criteria which were for Dimension 1: the percent of teachers rating themselves at or above a level of 4 ("use often and with adaptations"), and for Dimension 5: the percent of teachers rating themselves at or above a level of 3 ("use often, but not yet with adaptations").

Student-Newman-Keuls post hoc tests showed that the significant differences between schools were attributable to teachers at Morgan (grades K-2) tending to rate themselves at higher levels of use than teachers at Sutton (grades 6-8) for Create Valuable Tasks and Create Comfort and Order ($p = .05$). For Create Acceptance by Teacher, teachers at Morgan (grades K-2) tended to rate themselves at higher levels of use than teachers at all other schools (Franklin (grades 3-5), Sutton (grades 6-8) and Turner (grades 9-12)) ($p = .05$). The higher level of use among Morgan teachers (grades K-2) is consistent with observations reported by district officials that teachers at the K-2 level were furthest along in their implementation. The present results, however, confirm the report for Dimension 1 only; levels of use for Dimension 5 practices were similar across schools in the district and generally lower than level of use for Dimension 1.

Dimension 1: Attitudes and Perceptions

Teacher and student results by school. This section summarizes the findings related to the attitudes of teachers and students for each of the four study sites.

Morgan (Grades K-2). Teacher levels of use for Dimension 1 practices were very high at Morgan. As shown in Morgan's graph in Appendix C, the vast majority of teachers reported level of use at 4 ("have used often and adapted it to various situations") or higher on each of the six Dimension 1 practices. Student reports of Dimension 1 qualities were also very positive. On a scale where responding "yes" = 5, "neutral" = 3, and "no" = 1, the mean score for Class Climate was over 4.68 with the majority of Morgan classrooms showing mean scores close to five indicating that students generally agreed with all the items in the Class Climate scale (see Table 2). Class Climate items indicated children's satisfaction: "my class is fun" "activities are interesting," a sense of belonging/acceptance: "my teacher likes me" and "my teacher is interested in me," and clarity about

expectations: "I know what to do to get a good grade." Attitudes toward Class Tasks scale was unreliable, and thus the data are not reported.

No statistically significant relationships between Dimension 1 teaching practices and student outcomes occurred; although, with such high levels of use for Dimension 1 practices and strong, positive, school-wide student reports about class climate, there was little variation with which to detect any relationships. Thus, no evidence was found at Morgan linking student reports of Dimension 1 qualities with teacher use of Dimension 1.

Table 2.

Grades K-2 Dimension 1 Student Outcomes (n = 18 classrooms).

		Class Climate
Overall mean		4.68
# of classrooms with mean scores of:	1 "no"	0
	2	0
	3 "neutral"	0
	4	3
	5 "yes"	15
n (student surveys)		307

Franklin (Grades 3-5). Nine out of ten teachers at Franklin reported high levels of use (at or above 4) for four Dimension 1 practices (see Franklin's graph in Appendix C). Teachers reported high levels of use for Create Valuable Tasks (e.g., allow for student choices) and develop student confidence about performing tasks well (i.e., Develop Student Efficacy, including, for example, help students recognize they have abilities). High levels of use for practices were also apparent for create a positive climate, such as, Create Comfort and Order (e.g., be aware of and take steps to stop malicious behavior; provide feedback on behavior) and Create Acceptance by Teacher (e.g., talk informally with students; encourage participation, etc.). Fewer teachers reported high levels of use for Be Clear about Tasks (e.g., identify knowledge being addressed; provide clear expectations for performance levels) and Create Acceptance by Peers (e.g., teach group interaction skills; develop students' ability to gain acceptance).

Overall, students reported positive attitudes toward tasks in Franklin. As shown in Table 3, on a scale where responding "yes" = 5, "sometimes" = 3, and "no" = 1, the mean scores for Clarity of Expectations was 4.5 and for Tasks as Valuable/Interesting was above 3.37. In fact, as shown in Table 3, in the majority of Franklin classrooms, students rated Clarity of Expectations at the top of the range of responses. Clarity of Expectations items included "I know what I need to do to get an A, B, or C" and "When doing a project for this class, I know what to do to get a good grade." Tasks as Valuable/Interesting items included "information we are learning is valuable," "activities are varied," and "activities are related to my goals and interests." This indicates that in a majority of the

grade 3-5 classrooms, students have positive attitudes toward classroom tasks, an intended outcome of Dimension 1.

Overall Satisfaction with the classroom was also rated positively, but less so than for classroom tasks. Mean overall MCI Satisfaction was 3.43 (i.e., students tended to respond "sometimes" for such items as "students enjoy their schoolwork," "students like the classroom" and "the classroom is fun"). Mean overall MCI Cohesiveness rating was 2.65. Results indicated a less than "sometimes" average response to MCI Cohesiveness items, such as, "everyone in my classroom is my friend" and "students in our classroom like each other as friends."

Table 3.
Grades 3-5 Dimension 1 Student Outcomes (n = 19 classrooms).

		Class Tasks		Class Climate	
		Clarity of Expectations	Tasks as Valuable/ Interesting	MCI Satisfaction	MCI Cohesiveness
Overall mean		4.53	3.77	3.43	2.65
# of classrooms with mean scores of:	1 "no"	0	0	0	0
	2	0	0	2	7
	3 "sometimes"	0	3	7	11
	4	8	16	10	1
	5 "yes"	11	0	0	0
n (student surveys)		333	322	322	322

Several statistically significant relationships between student attitudes and teacher practices emerged for Dimension 1 at grades 3-5. As shown in Table 4, with a correlation coefficient of .93, there was virtually a one-to-one relationship between teacher level of use for Be Clear about Tasks and student perceived clarity of expectations as aggregated by classroom: higher levels of use converged with higher ratings of clarity. Teacher level of use for Be Clear about Tasks also positively correlated with student satisfaction with the classroom and schoolwork and with student perceptions that tasks were valuable. Moreover, teachers reporting higher levels of use for Create Acceptance (e.g., talk informally with students, encourage participation) tended to have classrooms with higher ratings of MCI Cohesiveness (e.g., all students in my classroom like one another.

Table 4.

Grades 3 - 5 Relationships between Dimension 1 Student Perceptions & Teaching.

Student Perceptions (n = 7 classrooms)	Dimension 1 Teaching Practices	
	Be Clear about Tasks -Have students mentally rehearse parts of tasks. -Have students explain tasks to each other. -Clearly identify knowledge. -Provide clear performance expectations.	Create Acceptance by Teacher -Talk informally with students. -Make eye contact. -Attribute ownership of ideas. -Encourage participation. -Be equitable. -Provide for individual differences. -Dignify student responses. -Alternate ways to give positive reinforcement
Clarity of Expectations -I know what I need to do to get an A, B, or C in this classroom. -When I have to do a project, I know what to do to get a good grade.	.93*	.61
Tasks as Valuable/Interesting -What I'm learning is valuable. -Activities are varied. -Activities relate to my goals and interests.	.80*	.78*
MCI Satisfaction -Students enjoy schoolwork in my class. -Students like the classroom. -The classroom is fun.	.78*	.75
MCI Cohesiveness -Everyone in my class is my friend. -All students in my classroom like one another. -Students like each other as friends	.71	.86*

* $p \leq .05$

Sutton (Grades 6-8). More than 70% of the teachers at Sutton reported high levels of use (at or above 4) for two Dimension 1 practices: Develop Student Efficacy (e.g., help students recognize they have abilities) and Create Acceptance by Teacher (e.g., talk informally with students; encourage participation, etc.). For two of the Dimension 1 practices, only a minority of Sutton teachers reported high levels of use (see Sutton's graph in Appendix C). These two practices were the lowest rated practices for Franklin teachers also, namely: Be Clear about Tasks (e.g., identify knowledge being addressed; provide clear expectations for performance levels) and Create Acceptance by Peers (e.g., teach group interaction skills; develop students' ability to gain acceptance).

As was true at Franklin (grades 3-5), students at Sutton (grades 6-8) rated Clarity of Expectations highest of the Dimension 1 qualities. On a 5-point scale (1=almost never; 2=seldom, 3=sometimes, 4=often, 5=very often), students, overall in grades 6-8, gave Clarity of Expectations a mean rating of 4.10. In fact, as can be seen in Table 5, nearly all 14 classrooms had mean ratings of 4 (often) or above for Clarity of Expectations. Clarity of Expectations items included "I know what to do to get an A, B or C" and "When doing a project for this teacher, I know what I have to do to get a good grade."

Table 5.
Sutton (Grades 6-8) Dimension 1 Student Outcomes (n = 14 classrooms).

		Class Tasks		Class Climate	
		Clarity of Expectations	Tasks as Valuable/ Interesting	ICEQ Participation	ICEQ Personalization
Overall mean		4.10	3.42	3.62	3.23
# of classrooms with mean scores of:	1 "almost never"	0	0	0	0
	2 "seldom"	0	0	0	0
	3 "sometimes"	1	6	6	10
	4 "often"	10	7	8	4
	5 "very often"	3	1	0	0
n (students)		233	229	232	224

Student attitudes toward the value of classroom tasks were moderately positive with a mean rating of 3.42 for Tasks as Valuable/Interesting. Likewise, student ratings for ICEQ Participation and Personalization were also moderate with mean ratings of 3.62 and 3.23, "often" and "sometimes," respectively as seen in Table 5. ICEQ Participation items included: "students give opinions," "there is classroom discussion," and "students' ideas and suggestions are used." ICEQ Personalization items included, for example, "different students do different work."

At Sutton (grades 6-8), only one significant correlation was found between student class task and climate measures and Dimension 1 teaching practices. In a negative direction, this correlation showed an inverse relationship between student rating for Clarity of Expectations and teacher level of use for Develop Student Self-Efficacy ($r(13) = -.57, p = .04$). This finding links an unlikely pair of practices and student outcomes, and does so in a puzzling direction. All other correlation coefficients were non-significant and ranged in magnitude from .04 to .38, occurring in both negative and positive directions. Thus, at grades 6-8, only puzzling evidence was found linking teacher level of use for Dimension 1 practices and student perceptions, perhaps due to developmental characteristics of students in middle school years.

Turner (Grades 9-12). The vast majority of teachers at Turner, as can be seen in Turner's graph in Appendix C, reported very high levels of use for four Dimension 1 practices, at or above level 4 ("use often and have adapted it for various teaching situations"). These practices included: Create Valuable Tasks (e.g., allow student choices, use tasks related to student interests and goals, etc.), Develop Student Efficacy (e.g., help students recognize they have abilities), Create Comfort and Order (e.g., be aware of and take steps to stop malicious behavior; provide feedback on behavior), and Create Acceptance by Teacher (e.g., talk informally with students; encourage participation, etc.). As was true for Schools F and S, the two lowest rated practices at Turner were Be Clear about Tasks (e.g., identify knowledge being addressed; provide clear expectations for performance levels) and Create Acceptance by Peers (e.g., teach group interaction skills; develop students' ability to gain acceptance).

As seen in Table 6, as was true at the lower grade schools, Turner students rated Clarity of Expectations high, close to or at a 4, and Tasks as Valuable/Interesting somewhat lower with a mean score of 3.41. Accepting Learning Environment was rated high reflecting students' tendency to respond with a 4 ("often") for such items as "There is classroom discussion," "Students ask the teacher questions," and "Students' ideas and suggestions are used during classroom discussion." CES Involvement and CES Order and Organization results indicate that students tended to judge conditions related to Involvement and Order and Organization as true for their classroom 75% of the time. Conditions related to Involvement reflected student engagement, e.g., "Students put a lot of energy into what they do here" and "Most students in this class really pay attention to what the teacher is saying." Conditions related to Order and Organization included, for example, "Students fool around a lot in this class" (reverse scored) and "This is a well-organized class."

At the high school level, no significant correlations between Dimension 1 teaching practices and student perceptions were found. With data aggregated across 13 classrooms, correlation coefficients between student class tasks and climate measures and Dimension 1 teaching practices ranged from about zero (i.e., -.05) to .52, with virtually none in a negative direction. Thus, there was no evidence that Dimension 1 teacher practices and student reported qualities converged.

Table 6.**Turner (Grades 9-12) Dimension 1 Student Outcomes (n = 21 classrooms).**

		Class Tasks		Class Climate		
		Clarity of Expectations	Tasks as Valuable/Interesting	Accepting Learning Environment	CES Involvement*	CES Order & Organization*
Overall mean		3.74	3.41	3.80	3.34	3.25
# of classrooms with mean scores of:	1	0	0	0	1	0
	2	1	1	0	1	5
	3	6	12	5	9	6
	4	14	7	16	8	7
	5	0	1	0	1	2
n (students)		211	212	212	209	210

* CES scores represent percent of conditions that students said were true: 1 = less than 65%, 2=66-77%, 3=78-82%, 4=83-94%, 5=more than 94%.

To summarize Dimension 1 findings, both the teacher level of use results and student reports about Dimension 1 indicate the presence of Dimension 1 qualities in the majority of the district's learning environments. Teachers reported advanced levels of use for Dimension 1 practices, using them often and adapting them to various teaching situations. Teachers often and adaptively used practices to develop students' positive attitudes towards classroom tasks, including confidence in their abilities. Teachers also often and adaptively used practices to encourage participation of all students and a sense of acceptance/belonging.

Generally student reports about Dimension 1 qualities were moderately to highly positive. At all grade levels, students reported that they knew what was expected of them to get good grades. Student perceptions that tasks were valuable/interesting were moderately positive across all schools and grade levels. Students across schools and grade levels also made moderately positive reports about classroom climate qualities, such as acceptance, participation, cohesiveness, and comfort and order. Classroom climate ratings among K-2 students, however, were remarkably high.

Evidence was found only at one of the four schools/grade levels that linked teacher practices, such as being clear about tasks, creating acceptance and encouraging participation, with student Dimension 1 reports that, for example, expectations were clear and there was high student participation. At Franklin, grades 3-5, there was virtually a one-to-one correspondence between teacher level of use for Be Clear about Tasks and student perceived clarity of expectations as aggregated by classroom. Moreover, In general, Franklin teachers reporting higher levels of use for practices that create an environment that is accepting and positively reinforcing, tended to have

classrooms in which student ratings for tasks as valuable, schoolwork as satisfying, and classroom cohesiveness were higher. This convergence between teacher and student reports supports, but does not confirm, the idea that as teachers become more proficient in the use of Dimension 1 practices, their students' perceptions of the classroom tasks and climate become more positive.

Dimension 5: Habits of Mind

Teaching practices. As displayed in Figure 2, the majority of teachers across the district reported spending 20% or more of their teaching time developing students' habits of mind. Thus, district teachers thought about, planned for, and encouraged student creative and critical thinking and self-regulation as much as one-fifth of their teaching time. Concurrently, the level of use for Dimension 5 practices suggested very beginning stages of implementation. As can be recalled from Figure 1, teacher average level of use for Dimension 5 practices tended to be lower than level of use for Dimension 1 practices. District mean level of use for Dimension 5 practices ranged from a high of 2.85 (just below a level 3, "have used often, but have not yet adapted it") for Model Habits of Mind, to a low of 2.23 and 2.15 ("plan to use or have used once or twice") for Develop Understanding of and Reinforce and Strengthen Habits of Mind. There were no significant differences in level of use for any of the Dimension 5 practices between schools; district wide, teachers tended to report beginning levels of use.

Level of use for Dimension 5 practices and time spent on developing students' habits of mind were generally correlated. As can be seen in Table 7, time spent on developing student Self-regulation most often and most strongly correlated with level of use for Dimension 5 practices. The more time teachers spent on developing student Self-regulation, the higher levels of use they reported for (1) Develop Understanding of Habits of Mind (e.g., facilitate discussions about the meaning of different habits of mind; consider examples of habits of mind from literature, current events, and personal lives, etc.), (2) Model Habits of Mind (e.g., use think-aloud to demonstrate habits of mind), and (3) Reinforce and Strengthen students' Habits of Mind (e.g., have students focus on a particular habit of mind; have students self-assess their own habits of mind; point out positive examples of student demonstrations of habits of mind).

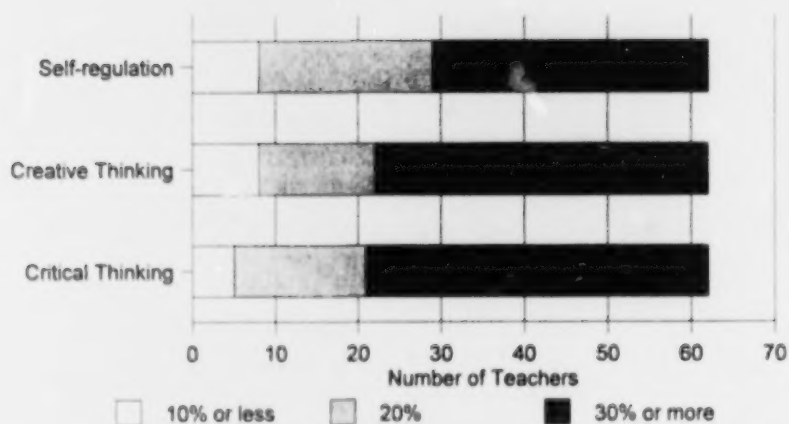


Figure 2. Percent of Teaching Time Spent on Developing Students' Habits of Mind (n=64 teachers)

Table 7.
Correlations between Teaching Time Spent on Developing Habits of Mind and Level of Use of Dimension 5 Practices.

Level of Use for Dimension 5 Practices	Teaching Time Spent on Developing Habits of Mind		
	Critical Thinking	Creative Thinking	Self-regulation
Develop Understanding of Habits of Mind	.23 (58)	.29* (61)	.39** (61)
Model Habits of Mind	.39** (60)	.29* (63)	.52** (63)
Reinforce and Strengthen Habits of Mind	.37** (59)	.19 (63)	.34** (63)

* $p = .05$; ** $p = .01$; number of teachers in parentheses

Student outcomes. This section presents outcomes findings for student at each of the four study sites.

Morgan (Grades K-2) and Franklin (Grades 3-5). No reliable student measures of Habits of Mind were apparent from the student surveys administered at Morgan and F. At Morgan (grades K-2) mean scores on individual survey items showed the highest scores on planning and pushing one's limits (i.e., "Before starting projects, I collect materials I need," "I know what I'm thinking about and what I need to do," "I set goals for myself," "I push myself," and "I try to learn new things and new skills"). At Franklin (grades 3-5), the highest mean scores on individual survey items indicated pushing one's limits and seeking clarity (i.e., "I am working as hard as I can to learn in my class," and "I try to be clear about what I read").

Sutton (Grades 6-8). Two reliable student Dimension 5 measures were found in the student survey administered at Sutton. These were Critical Thinking (e.g., "I try to be clear about what I read;" "I have an open mind about information.") and Creative Thinking (e.g., "I am working as hard as I can to learn;" "I always set high standards for myself in this class"). For 108 students, on a 5-point scale, the average Critical Thinking score was 3.85 and the average Creative Thinking score was 3.50; Sutton students tended to respond that they "often" tried to be clear about what they were reading, had an open mind (Critical Thinking), worked hard and set high standards (Creative Thinking).

Frequency of student engagement in Creative Thinking, however, was inversely correlated with teacher level of use for Dimension 5 practices. Table 8 shows correlation coefficients between student reports of engaging in creative thinking aggregated as classroom averages and teacher level of use for Dimension 5 practices. The significant, negative correlation ($r(9) = -.78$) indicates that more frequent student engagement in creative thinking was associated with lower teacher levels of use for Developing Understanding Habits of Mind. No other significant correlations occurred between Dimension 5 student measures and teaching practices at Sutton.

Table 8.
Grades 6-8 Correlations between Student Reports for Creative Thinking
Aggregated by Classroom and Dimension 5 Teaching Practices (n = 9 classrooms).

Student reports of Habits of Mind	Dimension 5 Practices for Developing Habits of Mind		
	Develop Understanding - facilitate discussion about and consider examples of habits of mind	Model - use think-aloud to demonstrate habits of mind	Reinforce and Strengthen - ask students to self-assess their habits of mind
Creative Thinking - I work as hard as I can to learn.	-.78*	-.41	-.25

* $p < .05$

Turner (Grades 9-12). Students in grades 9-12 rated how much learning strategy use statements were like themselves (LASSI-HS) as a measure of habits of mind. On a 4-point scale (1=not at all like me, 2=not very much like me, 3=somewhat like me, 4=very much like me), students on average rated close to or at three (somewhat like me) on seven out of the eight reliable LASSI-HS scales.

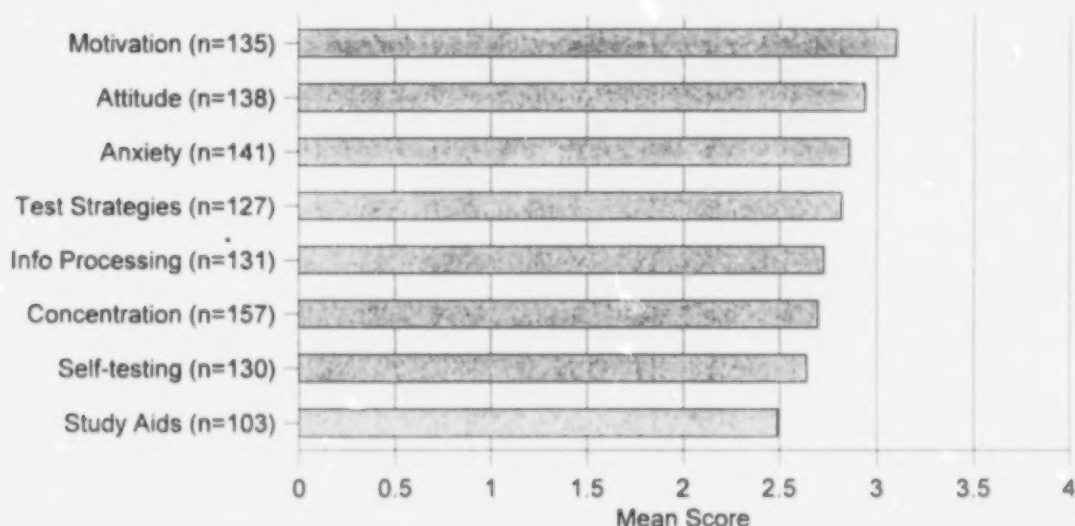


Figure 3. Turner (Grades 9-12) Student Mean LASSI-HS Scores as Measures of Habits of Mind.

Figure 3 shows the overall mean scores for the eight LASSI-HS scales. The highest scale score was for Motivation which included items, such as: "I am up-to-date in assignments," "I set high standards or goals for myself," and "I work hard to get a good grade." The lowest scale score was for use of Study Aids which included items, such as: "I use italics and headings," "I make drawings or sketches to help me understand," and "The notes I take as I read are helpful." All items for each LASSI-HS scale are listed in Appendix B.

Several of the LASSI-HS scales, aggregated by classroom, correlated with Dimension 5 teaching practices. The significant correlations are presented in Table 9; no other significant correlations between Dimension 5 student measures and teaching practices were found. As seen in Table 9, LASSI-HS Self-testing correlated significantly with teacher level of use for both Develop Understanding of and Reinforce and Strengthen Habits of Mind. Moreover, LASSI-HS Information Processing correlated with teacher level of use for Reinforce and Strengthen Habits of Mind. Also found as shown in Table 9 was a significant inverse relationship between student reported Anxiety and teaching time spent developing creative thinking. This inverse relationship indicates that more teaching time spent on developing creative thinking is associated with more anxious students; likewise less time spent on developing creative thinking, less anxious students feel. This suggests a less is more phenomenon; that is, less explicit, direct teaching of creative thinking may lead to more comfortable students, more willing to be creative/innovative.

Table 9.
Grades 9-12 Correlations between LASSI-HS Scales Aggregated
as Classroom Averages and Dimension 5 Teaching Practices (n = 14 classrooms).

Student reports of Habits of Mind as measured by LASSI-HS Scales	Dimension 5 Teaching Practices for Developing Habits of Mind		
	Develop Understanding -facilitate discussion about and consider examples of habits of mind	Reinforce and Strengthen - ask students to self-assess their habits of mind	Teaching Time Spent on Creative Thinking
Information Processing - I learn new words or ideas by imagining a situation. -I try to make connections between various ideas in what I am studying.	.53	.67*	.05
Self-testing -I stop often while reading and think over or review what has been said. -I test myself to be sure I know the material.	.54*	.62*	.12
Anxiety -When I begin a test, I feel pretty sure that I will do well.	-.19	-.06	-.55*

* $p = .05$

Relationships between Dimension 1 Teaching and Dimension 5 Student Measures

It is possible that Dimension 1 teaching practices, creating mental and classroom climates conducive to learning, encourage students' development of productive habits of mind. To explore this possibility, correlations between teacher level of use for Dimension 1 practices and student measures of Habits of Mind, aggregated by classroom, were computed. Tables 10 and 11 display the significant correlation coefficients that occurred; student habits of mind correlated with four of the six Dimension 1 practices.

At Sutton (grades 6-8), as shown in Table 10, both promoting a positive mental climate (Developing Student Self-efficacy) and creating a positive learning environment (Create Acceptance by Peers) significantly correlated with student creative thinking, an intended outcome of Dimension 5. The relationships, however, were inverse ones indicating that higher levels of use of Dimension 1 practices were associated with less frequent student creative thinking. Although obtained from a small sample size, and only at the middle school level, these inverse relationships point out possible unintended consequences of Dimension practices, namely, inhibition of creative thinking.

Table 10.**Sutton (grades 6-8) Correlations between Student Habits of Mind and Dimension 1 Teaching (n=9 classrooms).**

Student reports for Habits of Mind	Level of Use for Dimension 1 Teaching Practices			
	Develop Student Self-efficacy - help students recognize that they have abilities	Create Comfort and Order - establish and communicate classroom rules and procedures	Create Acceptance by Teacher - encourage participation of all students	Create Acceptance by Peers - teach group interaction skills
Creative Thinking - I am working as hard as I can to learn.	-.68*	-.64	-.66	-.74*

* $p = .05$

At Turner (grades 9-12), as shown in Table 11, both promoting a positive mental climate (Developing Student Self-efficacy) and creating a positive learning environment (Create Comfort and Order and Create Acceptance by Teacher) significantly correlated with several habits of mind as measured by LASSI-HS scales. These correlations, mainly in the positive direction, indicate that teachers' higher levels of use for Dimension 1 practices are associated with higher student LASSI-HS scores, aggregated as mean classroom scores, for Information Processing, Self-testing strategies, and use of Study Aids. The significant inverse relationship between teacher level of use for Develop Student Efficacy and student Test Strategies could suggest another less is more phenomenon; lower levels of use of the practice is associated with stronger habits of test preparation.

Table 11.

Turner (grades 9-12) Correlations between Student Habits of Mind and Dimension 1 Teaching (n=14 classrooms).

Student reports for Habits of Mind	Level of Use for Dimension 1 Teaching Practices		
	Develop Student Self-efficacy - help students recognize that they have abilities	Create Comfort and Order - establish and communicate classroom rules and procedures	Create Acceptance by Teacher - encourage participation of all students
Information Processing - I learn new words or ideas by imagining a situation. - I try to make connections between various ideas in what I am studying.	.68*	.61*	.70**
Self-testing - I stop often while reading and think over or review what has been said. - I test myself to be sure I know the material.	.57*	.69*	.72**
Use of Study Aids - I make drawings or sketches to help me understand what I am studying.	.62*	.67*	.67*
Test Strategies - When I study, I have trouble figuring out just what to do to learn the material. (Reverse scored)	-.56*	-.53	-.35

* $p = .05$; ** $p = .01$

To summarize Dimension 5 findings, district wide, teachers on average reported beginning levels of use for Dimension 5 practices: planning to use, used once or twice, or used often, but have not yet adapted to various teaching situations. According to Hall et al.(1975) who suggests that teachers develop effective use of an innovation after four or five cycles of its use, these levels of use may be appropriate given that the data were collected at the end of the second year of implementation. Moreover, teachers on average appeared appropriately attentive to developing students' habits of mind in their reports of spending 20% or more of their teaching time on developing students' habits of mind.

Reliable measures of students' habits of mind occurred at the middle and high school levels, but not at the lower grades. At Sutton (grades 6-8), students engaged in Critical Thinking habits of mind often and in Creative Thinking habits of mind sometimes, but not quite often. At Turner (grades 9-12), student results indicated that students had the Dimension 5 qualities of being perseverant, setting high standards, planning, and being up-to-date on assignments. At Schools M

and F (grades K-2 and 3-5), examination of individual survey items showed evidence of student habits of planning, pushing one's limits, and at Franklin, seeking clarity.

Evidence linking Dimension 5 practices and student outcomes was strong at the high school level. LASSI-HS Self-testing correlated with two Dimension 5 practices and LASSI-HS Information Processing correlated with one Dimension 5 practice. This indicates that student self-monitoring and active review of material and use of imagination and verbal extension to learn new words and ideas may have been related to teacher level of use for practices aimed at developing such habits of mind. Strong, positive correlations were also found between LASSI-HS scales and teacher level of use for three Dimension 1 practices. Higher levels of use of practices aimed at promoting both a positive mental climate and classroom climate were associated with student active interpretation and learning of material and self-monitoring of performance completing academic tasks.

Inverse relationships between practices and student outcomes, however, were often puzzling. Table 12 shows the six significant negative correlations found at the middle and high schools between teaching practices and student outcomes. Three of the four grade 6-8 and one of the two grade 9-12 inverse relationships involved Creative Thinking (as reported by students at grades 6-8 and as percent of teaching time spent on developing it at grades 9-12). These findings suggest potential inhibition of student comfort and/or creative thinking with higher levels of use and attention paid to certain Dimension 1 and 5 practices.

Three of the six inverse relationships involved practices for developing student self-efficacy which includes providing feedback about and developing understanding of one's abilities, attitudes and perceptions, monitoring and adjusting one's own attitudes, and a direct instruction strategy (i.e., "teach students positive self-talk"). The practice of Create Acceptance of Peers also includes direction instruction as well as structured activities (e.g., "teach students the skills necessary for group interactions," "use structured "get-to-know" activities periodically" and structure group work so that every student has a responsible role"). These particular inverse relationships suggest that too much direct and/or explicit instruction, intervention, and feedback might actually inhibit some of the Dimension 1 and 5 qualities intended as outcomes, such as creative thinking, preparedness, and a sense of clarity. Table 12 also shows, however, that the majority of negative correlations were found at the middle school level, suggesting the influence of a possible developmental phenomenon. In any case, the inverse relationships bring attention to unintended consequences and/or inconsistencies across grade levels with implementation of Dimensions 1 and 5.

Table 12.
Significant Inverse Relationships between Dimension Practices and Outcomes as Aggregated by Classroom.

		Dim 1	Dim 5		
Grade	6-8	-.57 (n=13) Develop Student Self-efficacy and Student Perceived Clarity of Expectations	-.78 (n=9) Develop Understanding of Habits of Mind and Student Creative Thinking	-.68 (n=9) Develop Student Self-efficacy and Student Creative Thinking	-.74 (n=9) Create Acceptance by Peers and Student Creative Thinking
	9-12	none	-.55 (n=14) Time Teaching Creative Thinking and Student Anxiety	-.56 (n=14) Develop Student Self-efficacy and Student Strategies for Test Preparation	none

Teacher Feedback on Implementation Support

In addition to quantitative data, qualitative data were collected from teachers. From all four schools, teachers' responses to open-ended survey questions indicated commitment to and belief in Dimensions of Learning as good teaching. Several teachers mentioned Dimension 2 implementation (e.g., "Identifying what the knowledge is; what we want to end up with"). Teacher comments from each school included:

"Dimension 1 and 5 are central to productive learning and fostering life long learners."

"I am constantly encouraging everyone to challenge themselves - my students have really done that. They are very much responsible for working independently and knowing where to go for help."

"I have implemented Dimensions 1 and 5 as they naturally occur in the classroom of a good teacher."

"We have always taught such diverse students and adapted teaching situations and expectations as all students are valuable."

"Both Dimensions 1 and 5 are processes that I use myself and encourage in my

students."

The teachers' qualitative comments were consistent with the quantitative results, indicating more advanced use of Dimension 1 practices and feelings of unfamiliarity with Dimension 5. Teachers commented on their unfamiliarity with Habits of Mind vocabulary (e.g., "I have not had student's identify the process as it is in habits of mind."). One teachers mentioned that Dimension 5 was not being implemented at all, "I know of no one teaching "Habits of Mind" as such in the classroom." Nonetheless, two other teachers' comments indicated integration of Dimension 5 practices into content area learning. One teacher reported s/he "attempted to keep these in mind when developing comprehension strategies for reading, including summarizing stories." The other teacher demonstrated familiarity with very specific habits of mind, and a practical disregard for the vocabulary of the three general categories: critical and creative thinking and self-regulation, when describing his/her practice. This teacher wrote:

"In math we have focused on accuracy, clarity and perseverance. After we have modeled a new concept, I tell kids their job is to clarify. The questions I have been getting are improving all the time. No longer do I get "I don't get it.""

Teachers listed steps they had taken to implement Dimension 1 and 5 practices. About equal numbers of teachers listed the following steps: engage in training and reading the DOL manual, collaborate with other staff, and participate in Critical Friends. Teachers also reported posting DOL rules and focusing on students (e.g., get to know students personally, provide choices, address individual interests and learning styles, and encourage students to seek assistance and work in teams). The two most frequent, biggest barriers to doing more implementation identified by teachers were (1) limited practical staff development and (2) not enough knowledge yet. Related to these barriers, teachers also reported that there was not enough time to collaborate with other teachers and engage in training. Teachers identified more collaboration with other staff and more staff development and workshops as the most useful kinds of support and resources for continuing to implement Dimensions 1 and 5. Critical Friends groups and talking with DOL leaders also were often identified as helpful support. Seeing specific, practical examples of DOL implementation ("not too much theory") was identified as the third most useful kind of support.

Numerous teacher comments suggested that the most useful way to provide support and resources for further implementation was through building-wide and/or system-wide buy-in to DOL and visible walking the talk. Three types of organizational changes were suggested. Teachers suggested increased resources, e.g. paid time to organize curriculum to incorporate DOL and adequate technology to offer (a) group instruction, (b) websites presenting examples of successful implementation of DOL in each curriculum area, and (c) a hotline for Q/A. Teachers suggested cultural changes, e.g., expressed belief in the importance of DOL from principals; vision statements that include DOL principles, modeling lessons anywhere and anytime on school property, departmental focus on DOL implementation, and inclusion of support staff in DOL training ("it puts all personnel on the same page"). Thirdly, teachers suggested structural changes to help focus teachers' work, i.e., less paperwork, reduce areas given to teach, less interruptions with class schedules, and incorporation of DOL implementation in the peer evaluation process.

SUMMARY AND CONCLUSIONS

Implementation of Dimensions 1 and 5

With regard to Dimension 1, district teachers on average demonstrated advanced levels of implementation for Dimension 1 practices. On a 5-point scale, average level of use for each of the six categories of Dimension 1 practices was at or near a level four, "I have used this strategy often and adapted it for various teaching situations." A number of teachers said that they were at the top level of use, "I have used this strategy often, adapted it for various teaching situations, and encouraged its use by parents, teachers, or others." Teachers' qualitative comments also indicated advanced levels of use for Dimension 1, for example, "... my students have really done that. They are very much responsible for working independently and knowing where to go for help," and "We have always taught such diverse students and adapted teaching situations and expectations as all students are valuable."

With regard to Dimension 5, district teachers on average demonstrated beginning levels of use for Dimension 5, developing students' habits of mind, including critical and creative thinking and self-regulation. District average levels of use for Dimension 5 practices were at levels two and three ("I plan to use this strategy or have used it once or twice" and "I have used this strategy often, but have not yet adapted it for various teaching situations"). Teacher comments also indicated beginning levels of use for Dimension 5.

Teachers did not mention critical or creative thinking or self-regulation, the three general categories of Dimension 5, in their open-ended responses. One teacher even commented directly that he or she had not yet defined these terms for his/her students. Explicit naming of particular habits of mind, however, was made by at least two teachers who had incorporated them into their content area instruction, including: summarizing, perseverance, accuracy and clarity. This finding suggests that the Dimension 5 categories may not be useful.

The Dimension 5 categories of critical and creative thinking are used quite differently in Dimensions of Learning from how they are used commonly by educators. Critical and creative thinking usually refer to cognitive skills and processes such as error analysis, abstracting and invention. In DOL, such processes are included in Dimensions 3 and 4. Unlike the common uses of the terms, in DOL, "critical and creative thinking" refer to habits, dispositions, one's commitment to accuracy and clarity (Marzano et al. 1997). This unique use of the terms "critical and creative thinking" perhaps presents confusion and is a barrier to successfully understanding and implementing Dimension 5.

Another barrier to successfully understanding and implementing Dimension 5 is that the habits of mind described in Dimension 5 "all push against natural human tendencies" (Marzano, 1992; p. 141). If human beings infrequently use the habits of mind, then teacher modeling of them is naturally going to be infrequent.

"The vast majority of people commonly do not like to plan, manage resources, or

attend to feedback because of the time and energy involved. We usually do not avoid impulsivity or seek accuracy and clarity because not doing so is easy. For similar reasons, we usually do not work at the edge rather than the center of our competence, persevere even when answers or solutions are not readily available, and so on." (Marzano, 1992; p. 141)

In addition to the habits of mind being unnatural, "the process of helping students develop effective habits of mind is qualitatively different from the processes of helping students develop any of the other dimensions of learning" (Marzano, 1992; p. 135). Habits of mind do not lend themselves to instruction in explicit strategies and processes as do Dimensions 2, 3 and 4; nor can they be reinforced in a fairly unobtrusive manner as can be the positive attitudes and perceptions of Dimension 1 (Marzano, 1992; p. 135). The present results may reflect these challenges to implementation and measurement of Dimension 5 strategies.

Relative to each other, results regarding implementation of Dimensions 1 and 5 were consistent with expectations from DOL developers. Differences between schools with regard to Dimension 1 were consistent with prior reports from district officials that K-2 teachers were furthest along with DOL implementation. Levels of use patterns related to subject area and role as DOL leader also were consistent with professional responsibilities.

Dimension 1 Qualities as Reported by Students

The extent to which students reported qualities associated with Dimension 1 was moderate to great for attitudes and perceptions toward tasks. Clarity of expectations, a quality associated with Dimension 1, was evident in student reports to a great extent. Across all schools and the four grade levels, students rated Clarity of Expectations very high, suggesting that this quality of Dimension 1 was commonly present in the teaching/learning environments of the district. Students reported that they knew what to do to get good grades. Perceptions of classroom tasks as valuable were also positive, but rated lower than Clarity of Expectations. Students at Morgan (grades K-2) agreed that classroom activities were interesting and at Franklin (grades 3-5) students rated Tasks as Valuable/Interesting the highest of all students in the district. Students at Sutton and Turner (grades 6-8 and 9-12), nonetheless, reported that classroom activities were related to their goals and that the information they were learning was valuable "sometimes," as opposed to "almost never" or "seldom."

Evidence that students had confidence in their abilities to perform classroom tasks was not found. Further instrument development is needed to study students belief that they have the abilities and knowledge to complete tasks and that they see complex tasks as doable.

The extent to which students reported qualities in the classroom climate that are conducive to learning was moderate. Students across schools and grade levels made moderately positive reports about such Dimension 1 qualities as an accepting environment, welcoming participation, cohesiveness, and comfort and order.

Dimension 5 Qualities as Reported by Students

The extent to which students reported qualities associated with Dimension 5 was moderate, but limited to upper grade schools. At Sutton (grades 6-8), students tended to report that they engaged in Critical and Creative Thinking with an average frequency that was between "sometimes" and "often" (scores of 3 and 4 on a 5-point scale). Sutton students reported sometimes or often they tried to be clear about what they read and had an open mind (Critical Thinking) and worked hard and set high standards (Creative Thinking). At Turner (grades 9-12), students on average tended to report that statements about habits of mind were somewhat, but not very much, like them (a score of 3 on a 4-point scale). This relatively high score was found for LASSI-HS Motivation with items reflecting perseverance, preparedness, and high standards, all mental habits identified by DOL as exemplifying Creative Thinking and Self-regulation.

At the lower grade schools, no reliable measures of Habits of Mind were found other than student responses to individual survey items. These responses indicated that students had developed habits in planning, pushing one's limits, and at Franklin (grades 3-5), seeking clarity.

Links Between Dimension 1 and 5 Implementation and Student Reports

Evidence that Dimension 1 and 5 qualities, as reported by students, were linked with implementation of Dimension 1 and 5 teaching practices was limited to certain schools/grades. For Dimension 1, at Franklin (grades 3-5), among seven teachers and classrooms for which data were available, teacher level of use for Be Clear about Tasks correlated significantly with higher student ratings for (a) clarity of expectations, (b) satisfaction with their classroom and schoolwork, and (c) tasks as valuable/interesting. However, no such significant correlations occurred at the upper grade schools.

For Dimension 5, at the high school level, evidence linking students' habits of mind to both Dimension 1 and 5 teaching practices was strong. Higher student ratings for learning and study strategy statements (e.g., "I try to make connections between various ideas in what I'm studying" and "I test myself to be sure I know the material") were linked with higher levels of use for practices that (a) aimed at creating positive learning environments and boosting student attitude toward tasks and one's abilities (Dimension 1) and (b) developed student understanding of and strengthened use of habits of mind (Dimension 5). These findings speak well of the potential positive impact of DOL on students and provide evidence that continued efforts at the high school to improve implementation of Dimension 1 and 5 practices will benefit students. High school teachers who encourage active student engagement in expressing their own interpretations of material are likely to see students develop habits for life-long learning. These findings add to Fisher and Horton's (1993) results by documenting student outcomes in association with teaching practices that engage students in their own interpretation of material.

Inverse relationships between teaching practices, especially explicit instruction and structured activities, and student creative thinking and other Dimension 1 and 5 outcomes, (e.g., preparedness and comfort) brought attention to potential unintended consequences of implementing some Dimension practices. In particular, evidence suggested that creative thinking may be inhibited by some Dimension practices; although, the data patterns could also be attributed to measurement issues. Modeling creative thinking (e.g., perseverance, innovation) and any other habits of mind,

however, was not a practice involved in any of the results suggesting an inhibition of desired student outcomes. This is consistent with research showing that modeling positively influences self-efficacy, creative thinking and other habits of mind (Bandura, 1997; Marzano, 1992). Teacher users of DOL also requested more modeling of habits of mind and other dimensions of effective learning. Further study of modeling and observational learning as Dimension 5 practices is warranted by the present and previous research.

Limitations

Teacher implementation of Dimension 1 and 5 was measured using a self-report assessment scaled according to Hall's et al. (1975) discrete levels of use of an innovation. Although several findings supported the appropriateness of the Hall et al. (1975) level of use scale, further study is needed to confirm the self-assessment with information from other sources, such as from observation and external raters. Present findings supporting the appropriateness of the level of use scale included confirmation of previous observations or recognition that (1) teachers at Morgan (grades K-2) were implementing Dimension 1 practices at higher levels than teachers at other schools/grade levels and (2) developing students' habits of mind (Dimension 5) is difficult. Moreover, all measures of particular Dimension 1 and 5 practices proved to be sufficiently reliable for providing information about groups and the teachers qualitative descriptions about their implementation of Dimensions 1 and 5 were consistent with the quantitative results. However, known problems with teacher self-report measures warrant caution against using the present results as a definitive report on the status of the implementation of Dimensions 1 and 5. In particular, there is the problem, whether real or unfounded, of teachers feeling vulnerable to the possibility of evidence being used against them, and thus protecting themselves by assessing themselves only at high or acceptable levels of use. Secondly, there is the problem of teachers who demonstrate very high levels of use and deep, thorough understanding of an innovation but actually rate themselves low because of their increased sensitivity to the way practice actually should and can be (Belcher & Fuhrman, 2000). Further research and development is needed to address these measurement issues regarding implementation of DOL.

The validity of the self-report, level-of-use measures as indicators of the extent to which teachers implemented Dimension 1 and 5 practices was supported with evidence from two schools. At Franklin (grades 3-5), high positive correlations between student ratings about clarity of expectations and teacher level of use for Be Clear about Tasks supported the validity of Be Clear about Tasks measure. At Turner (grades 9-12), positive correlations between student LASSI-HS scores and teacher level of use for Develop Understanding of and Reinforce and Strengthen Habits of Mind supported the validity of these measures of Dimension 5 practices. Nonetheless, these significant correlations may have been the result of other approaches to teaching, not measured, but still present. Implementation of standards, for example, may have influenced children's reports about clarity of expectations, regardless of their teachers' implementation of Dimension 1 practices. Additionally, teacher reports that their implementation of Dimension 1 and 5 merely reflects good teaching challenges the validity of the present level-of-use results as uniquely a function of DOL training or adoption, per se. To address these issues in the future, studies using comparison group designs would be useful in evaluating the appropriateness of attributing level-of-use results to DOL per se.

With regard to student outcomes, many of the student Dimension 1 and 5 measures had sufficient reliability for providing information about groups (e.g., classroom mean scores), but reliable measures from students in the lower grades were particularly infrequent, and measures of certain Dimension 1 and 5 outcomes still need to be developed. Moreover, inverse relationships between teaching practices and student outcomes, particularly at grades 6-8 and in relation to creative thinking, warrant further instrument development and study. Further research will help determine the extent to which present inverse relationships were due to developmental issues at grades 6-8, unique qualities about developing creative thinking, or to the particular present sample of students and/or teachers. Based on the present results, including the reliability evidence for the student measures as defined by items listed accordingly in Appendix B, Table 13 is presented to provide an overview of next steps in the development or selection of student outcome instruments for Dimensions 1 and 5. As shown in Table 13, present results suggest that some measures need revisions, others need development from scratch or reconceptualization, and others can continue to be operationalized by commercially available instruments, such as the LASSI-HS. It is recommended that further development, use and reconceptualization of student outcome measures align with any related standards, such as self-regulation, as specified in state or national and professional standards documents.

Table 13.**Continued Use or Further Development of Student Dimension 1 and 5 Measures.**

Grade Level		K-2	3-5	6-8	9-12
Dim 1: Tasks	Clarity of Expectations	Rev	Rev	Rev	Rev
	Tasks as Valuable/Interesting	Rev	use MCI Satisfaction	Rev	Rev
	Confidence in Abilities	R-C	R-C	R-C	R-C
Dim 1: Climate	Comfort and Order	Rev	Dev	Dev	use CES Order & Organization
	Acceptance by Teacher/School	Rev	Dev	use ICEQ Participation	use CES Involvement
	Belongingness/ Cohesiveness among Peers	Dev	use MCI Cohesiveness	Dev	Dev
Dim 5: Habits of Mind	"I try to be clear." "I work hard." "I'm prepared."	R-C			

Note: Rev refers to revise, pilot and re-administer..

R-C refers to reconceptualize; that is, have DOL developers and users define outcomes.

Dev refers to develop from scratch, revise, pilot and re-administer.

To summarize, this study used a combination of newly developed and existing instruments to measure Dimension 1 and 5 practices and qualities. Results relied on teacher and student self-report from one district with small sample sizes at each grade level. Because of the limitations associated with sample sizes, such as the increased power of errors, and because of the preliminary nature of the design of the instruments for the purposes of evaluating DOL, the present results are tentative descriptions needing replication in future research, both in the same district and others. These results are not a definitive report on the status of the implementation of Dimensions 1 and 5, nor the extent to which Dimensions 1 and 5 appear to impact students. These results, however, are appropriate as the focus and springboard for ongoing conversations about the boundaries and constructs that define DOL as a model of teaching and learning. These results, furthermore, suggest particular areas on which to focus DOL research in the future.

RECOMMENDATIONS

Instrument Development

1. Develop level of use survey and scales to measure implementation of Dimension 2, 3, and 4 practices. Use Fisher and Horton's (1993) report as a basis for framing the practice items.
2. Develop content specific unit tests to measure impact of Dimension 2, 3 and 4 on student achievement.
3. Examine validity of the level-of-use scales for all Dimensions practices through comparisons of self-report assessments with measures based on observations and external raters.
4. Develop and revise student Dimension 1 and 5 outcome measures as indicated in Table 13, attending to standards.
5. Study semantic qualities of student and teacher items and their correspondence.

Research Using a Comparison Group Design

1. Design a comparison group study (comparing DOL trained teachers to non-DOL teachers) that focuses on either grades 3-5 or 9-12 and secures large enough sample sizes (e.g., more than or equal to 10 classrooms/teachers per one grade level per condition) to examine differences associated with different levels of training and/or use while controlling for teacher demographics (e.g., subject area) and student demographics (e.g., community locale).
2. Include in the study, collection of data on the frequency, duration, nature and/or total amount of DOL training teachers received.
3. Plan for triangulation of data about classroom practice.
4. Design future research to examine especially the role of modeling and observational learning in the implementation and impact of DOL and the replicability of evidence from the present study about potential unintended consequences of certain Dimensions practices possibly related to inhibiting creative thinking.

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APPENDIX A

A-1

Dimension 1: Student Survey (Grades K-2)

*Put an "X" through the face that matches
how you feel about each sentence.*

For example:

a. I like pizza.



yes neutral no

b. I like snakes.



yes neutral no

Point value:

3 2 1
yes neutral no

1. Students seem to like my classroom.



2. Some students are not happy in my classroom.



3. Students like their schoolwork in my classroom.



4. Some of the students don't like the classroom.



5. The classroom is fun.



6. Class activities are interesting to me.



7. Students are allowed to get up and move around
when they need to.



8. I know what to do in my schoolwork to get good
grades in this classroom.



9. My teacher likes me.



10. My teacher is interested in me.



Dimension 5: Student Survey (Grades K-2)

Directions: Put an "X" through the happy face that matches how you feel about each sentence. For example, listen to this sentence, **I keep my desk clean.** How do you feel about what it said? If "Yes, I do," put an "X" through the happy face. If "No, I don't," put an "X" through the sad face. If you feel, "Sometimes I do," put an "X" through the middle, neutral face.

Point value: 3 2 1
yes sometimes no

- | | | | |
|---|---|---|---|
| 1. I try to learn new things and new skills in this class. |  |  |  |
| 2. I stop to think before I speak or act in this class. |  |  |  |
| 3. <u>I do not hurt the feelings of my classmates.</u> |  |  |  |
| 4. I never give up easily in my work in this class. |  |  |  |
| 5. I push myself to do my best in this class. |  |  |  |
| 6. I set goals for myself in this class. |  |  |  |
| 7. I know what I am thinking about and what I need to do. |  |  |  |
| 8. I make plans for what I want to get done in this class. |  |  |  |
| 9. Before I start a project in this class, I collect all of the materials I need. |  |  |  |
| 10. I think comments and suggestions on my actions are helpful in this class. |  |  |  |

Dimension 5: Student Survey (Grades 3-5)

Part I Directions: While thinking about this classroom and the activities in this class, please read each sentence. For each sentence mark either **yes**, **no** or **sometimes** in response to what it says.

	Point value:	3	1	2
1. I try to be clear about what I read.	yes	no	sometimes	
2. I ask questions when I don't understand what I hear, read and see in my class.	yes	no	sometimes	
3. I have an open mind about information.	yes	no	sometimes	
4. I stop to think before I speak or act.	yes	no	sometimes	
5. I speak up when I believe in something.	yes	no	sometimes	
6. I am sensitive to the feelings and abilities of others.	yes	no	sometimes	
7. <u>I am likely to give up when a task in this class becomes difficult.</u>	yes	no	sometimes	
8. I am working as hard as I can to learn in my Class.	yes	no	sometimes	
9. <u>I am not working very hard in my class because the material is easy.</u>	yes	no	sometimes	
10. I always set high standards for myself in this class.	yes	no	sometimes	
11. I try to look at things in new and unique ways.	yes	no	sometimes	
12. I know why I am studying the material I am studying.	yes	no	sometimes	
13. I plan what I want to learn in this class.	yes	no	sometimes	
14. I collect all the materials I need for projects in this class.	yes	no	sometimes	
15. I ask others to tell me how my behavior affects others and I listen well and sometimes change my behavior.	yes	no	sometimes	
16. I think about how well I'm doing and what I might do differently next time.	yes	no	sometimes	

Dimension 1 survey (Grades 3-5)

Part II Directions: Please use the blue and white answer sheet to complete Part II.

While thinking about this classroom and the activities in this class, please read each sentence. For each sentence, #1 – #50, MARK either A (yes), B (no) or C (sometimes) in response to what it says. USE THE RESPONSE BUBBLES ON THE LEFT SIDE OF THE ANSWER SHEET, BUT DO NOT MARK EITHER D OR E.

A yes B no C sometimes

1. The students enjoy their schoolwork in my classroom.
2. Students are always fighting with each other.
3. Students often race to see who can finish first.
4. In our classroom the work is hard to do.
5. In my classroom everybody is my friend.
6. Some students are not happy in my classroom.
7. Some of the students in our classroom are mean.
8. Most students want their work to be better than their friend's work.
9. Most students can do their schoolwork without help.
10. Some people in my classroom are not my friends.
11. Students seem to like the classroom.
12. Many students in our classroom like to fight.
13. Some students feel bad when they don't do as well as the others.
14. Only the smart students can do their work.
15. All students in my classroom are close friends.
16. Some of the students don't like the classroom.

A yes

B no

C sometimes

17. Certain students always want to have their own way.
18. Some students always try to do their work better than the others.
19. Schoolwork is hard to do.
20. All of the students in my classroom like one another.
21. The classroom is fun.
22. Students in our classroom fight a lot.
23. A few students in my classroom know how to do their work.
24. Most of the students in my classroom know how to do their work.
25. Students in our classroom like each other as friends.
26. My teacher is interested in me.
27. The information that I am learning in this classroom is valuable.
28. You are allowed to get up and move around when you need to.
29. Our teacher emphasizes good attitudes about learning.
30. The teacher explains how well you must complete a task in order to get a good grade.
31. I am afraid to ask and answer questions in the classroom.
32. When we are learning something new, the teacher explains why it is important to learn.
33. I often do something to improve my attitude.
34. I think this teacher treats all students in a positive way.
35. We often do different or new kinds of activities in this classroom.

36. I have many strategies for paying attention.
37. The activities in this classroom are related to my goals.
38. I know what I need to do to get an A, B, or C in this classroom.
39. The work in this classroom is related to things that I am interested in.
40. When I have to do a project, I know what to do to get a good grade.

Dimension 1 Student Survey (Grades 6-8)

Part I Directions: This survey asks you to describe this classroom which you are in right now. There are no right or wrong answers. Your opinion is what is wanted. Read each sentence and mark one letter on the green and white "bubble sheet" corresponding to your answer. For example:

In this class. . .

the teacher asks me questions.

A	B	C	D	E
Almost never	Seldom	Sometimes	Often	Very often

- If you think this teacher almost never asks you questions, mark A.
- If you think this teacher very often asks you questions, mark E
- Or you can choose the letter B (seldom), C (sometimes) or D (often) if this seems like a more accurate answer.

Please begin. Mark your answers on the green and white "bubble sheet." You will not be using the Y N options on the "bubble sheet." Use A – E as defined below.

Point Value:

1	2	3	4	5
A	B	C	D	E
Almost never	Seldom	Sometimes	Often	Very often

In this class . . .

1. The teacher talks with each student.
2. Students give their opinions during discussions.
3. The teacher decides where students sit.
4. Students find out the answers to questions from textbooks rather than from investigations.
5. Different students do different work.

In this class . . .

6. The teacher takes a personal interest in each student.
7. The teacher lectures without students asking or answering questions.
8. Students choose their partners for group work.
9. Students carry out investigations to test ideas.
10. All students in the class do the same work at the same time.

A	B	C	D	E
Almost never	Seldom	Sometimes	Often	Very often

In this class . . .

11. The teacher is unfriendly to students.
12. Students' ideas and suggestions are used during classroom discussion.
13. Students are told how to behave in the classroom.
14. Students carry out investigations to answer questions coming from class discussions.
15. Different students use different books, equipment, and materials.

In this class . . .

16. The teacher helps each student who is having trouble with the work.
17. Students ask the teacher questions.
18. The teacher decides which students should work together.
19. Students explain the meanings of statements, diagrams, and graphs.
20. Students who work faster than others move on to the next topic.

A	B	C	D	E
Almost never	Seldom	Sometimes	Often	Very often

In this class . . .

21. The teacher considers students' feelings.
22. There is classroom discussion.
23. The teacher decides how much movement and talk there should be in the classroom.
24. Students carry out investigations to answer questions which puzzle them.
25. The same teaching aid (e.g., blackboard or overhead projector) is used for all students in the class.

In this class . . .

26. It is easy to get a group together for a project in this class.
27. Students get to know each other well in this classroom.
27. This is a well-organized classroom.
28. Students fool around a lot in this class.
29. The teacher goes out of his or her way to help students.
30. It is important that you have a good attitude about learning.

A	B	C	D	E
Almost never	Seldom	Sometimes	Often	Very often

In this class . . .

31. I feel that this teacher favors some students in the classroom more than others.

32. I am allowed to get up and move around in this classroom when I need to.

33. It is hard for me to pay attention in this classroom.

34. The information that we are learning in this classroom is valuable.

35. This teacher emphasizes good attitudes about learning.

In this class . . .

36. This teacher often explains how well you must complete a task in order to get a good grade.

37. This teacher is fair.

38. This teacher spends a lot of time lecturing.

39. When we are learning something new, the teacher often explains why it is important to learn.

40. I often do something to improve my attitude.

A	B	C	D	E
Almost never	Seldom	Sometimes	Often	Very often

In this class . . .

41. I think that the teacher treats all students in a positive way in this classroom.

42. We often do different or new kinds of activities in this classroom.

43. I have many strategies for paying attention.

44. The activities in this classroom are related to goals that I want to achieve.

45. I know what I need to do to get an A, B, or C.

In this class . . .

46. I can see how what I'm being taught relates to things I have to do in life.

47. The teacher always says the same thing to you when you answer a question correctly.

48. When doing a project for this teacher, I know what I have to do to get a good grade.

49. I see the value in what we're being taught.

50. I think the things we're doing in class are interesting.

Dimension 5: Student Survey (Grades 6-8)

Part II Directions: Part II of the survey asks you about how you think and behave as a student in this class that you are in right now. Please read each sentence, number 51 to 66. For each sentence, mark one letter on the green and white "bubble sheet" corresponding to your answer. There are no right or wrong answers. Select answers that describe how you think and behave as a student in this class. For example,

In this class . . .

I demonstrate respect for others in my groups.

A	B	C	D	E
Almost never	Seldom	Sometimes	Often	Very often

- If you think you almost never demonstrate respect for others in your groups in this class, mark **A**.
- If you think you very often demonstrate respect for others in your groups in this class, mark **E**.
- Or you can choose the letter **B** (seldom), **C** (sometimes) or **D** (often) if this seems like a more accurate answer.

You will not be using the **Y N** options on the "bubble sheet." Use A – E as defined below.

Point Value:

1	2	3	4	5
A	B	C	D	E
Almost never	Seldom	Sometimes	Often	Very often

In this class . . .

51. I try to be clear about what I read.
52. I ask questions when I don't understand what I hear, read and see in my class.
53. I have an open mind about information.
54. I stop to think before I speak or act.
55. I speak up when I believe in something.
56. I am sensitive to the feelings and abilities of others.
57. I am likely to give up when a task in this class becomes difficult.
58. I am working as hard as I can to learn in my class.
59. I am not working very hard in my class because the material is easy.
60. I always set high standards for myself in this class.
61. I try to look at things in new and unique ways.
62. I know why I am studying the material I am studying.
63. I plan what I want to learn in this class.
64. I collect all the materials I need for projects in this class.
65. I ask others to tell me how my behavior affects others and I listen well and sometimes change my behavior.
66. I think about how well I'm doing and what I might do differently next time.

Underlined items are reverse scored.

A-11

Dimension 1 Student Survey (Grades 9-12)

Part I Directions: This survey asks you to describe this classroom which you are in right now. There are no right or wrong answers. Your opinion is what is wanted. Read each sentence and mark **Yes (Y)** or **No (N)** on the green and white "bubble sheet" corresponding to your answer. For example:

In this class. . .
the teacher asks me questions.

Y	N
yes	no

- If you think that your teacher asks you questions, mark **Y (A)** "yes".
- If you think that your teacher does not ask you questions, mark **N (B)** "no".
- Mark only **Y** or **N (A or B)**.
- Do not mark **C, D, or E** for Part I.

Point Value:

3	1
Y	N
yes	no

1. Students put a lot of energy into what they do here.
2. Students in this class get to know each other very well.
3. This teacher spends very little time just talking with students.
4. We often spend more time discussing outside student activities than class-related material.
5. This is a well-organized class.
6. There is a clear set of rules for students to follow.
7. Students daydream a lot in this class.
8. Students in this class aren't very interested in getting to know other students.
9. The teacher takes a personal interest in students.
10. Getting a certain amount of classwork done is very important in this class.
11. Students are almost always quiet in this class.
12. Rules in this class seem to change a lot.
13. Students are often "clockwatching" in this class.
14. A lot of friendships have been made in this class.
15. The teacher is more like a friend than an authority.
16. Students don't do much work in this class.
17. Students fool around a lot in this class.
18. The teacher explains what will happen if a student breaks a rule.
19. Most students in this class really pay attention to what the teacher is saying.
20. It's easy to get a group together for a project.
21. The teacher goes out of his/her way to help students.
22. This class is more a social hour than a place to learn something.
23. This class is often very noisy.
24. The teacher explains what the rules are.

Dimension 5: Student Survey (Grades 9-12)

Part II Directions: While thinking about this classroom and the activities in this class, please read each sentence, number 25 to 45. For each sentence, mark one letter on the green and white "bubble sheet" corresponding to your answer. There are no right or wrong answers. Select answers that describe how you think and behave as a student in this class. For example,

In this class . . .

I demonstrate respect for others in my groups.

A	B	C	D	E
Almost never	Seldom	Sometimes	Often	Very often

- If you think you almost never demonstrate respect for others in your groups in this class, mark A.
- If you think you very often demonstrate respect for others in your groups in this class, mark E
- Or you can choose the letter B (seldom), C (sometimes) or D (often) if this seems like a more accurate answer.

Point Value:

1	2	3	4	5
A	B	C	D	E
Almost never	Seldom	Sometimes	Often	Very often

25. I know what I need to do to get an A, B, or C.
26. It is important that you have a good attitude about learning.
27. This teacher often explains how well you must complete a task in order to get a good grade.
28. The information that we are learning in this classroom is valuable.
29. This teacher emphasizes good attitudes about learning.
30. The teacher spends a lot of time lecturing.
31. Students ask the teacher questions.
32. There is classroom discussion.
33. I often do something to improve my attitude.
34. I have many strategies for paying attention.
35. When doing a project for this teacher, I know what I have to do to get a good grade.
36. The teacher always says the same thing to you when you answer a question correctly.
37. The activities in this classroom are related to goals that I want to achieve.
38. Students' ideas and suggestions are used during classroom discussion.
39. I see the value in what we are being taught.
40. We often do different or new kinds of activities in this classroom.
41. When we are learning something new, the teacher often explains why it is important to learn.
42. The teacher is unfriendly to students.
43. I can see how what I'm being taught relates to things I have to do in life.
44. The teacher clearly identifies the knowledge that a task addresses.
45. I think the things we're doing in class are interesting.

Dimension 5: Student Survey (Grades 9-12)

Part III Directions: Part III begins with #51. Find # 51 in the bottom half of your green and white "bubble sheet." Read each statement and fill in the letter that corresponds to how well the statement describes you. Select responses that describe your behavior and how you think as a student in this class that you are in right now.

For example

"When I begin a test, I feel pretty sure that I will do well."

Not at all like me A	Not very much like me B	Somewhat like me C	Very much like me D	Not applicable to this class E
----------------------------	-------------------------------	--------------------------	---------------------------	--------------------------------------

If you think that this statement is not at all like you in this class, mark **A**; if you think that this statement is very much like you, mark **D**. Mark **B** (not very much like me) or **C** (somewhat like me) if it seems like a more accurate answer. If the class you are in right now does not involve tests, mark **E** (does not apply to this class).

Point Value:

1	2	3	4	0
Not at all like me A	Not very much like me B	Somewhat like me C	Very much like me D	Not applicable to this class E

51. I worry that I will fail in this class.
52. I can tell the difference between more important and less important information before my teacher tells me.
53. I find it hard to stick to a study schedule for this class.
54. After a class, I look over my notes to help me understand the information.
55. I don't care if I finish this course as long as I can get a job.
56. I find that when my teacher is teaching I think of other things and don't really listen to what is being said.
57. I use special study helps, such as italics and headings, that are in my textbook or other learning materials.
58. I try to identify the main ideas when I listen to my teacher teaching.
59. I get discouraged because of low grades.
60. I am up-to-date in my classes.

Not at all like me A	Not very much like me B	Somewhat like me C	Very much like me D	Not applicable to this class E
----------------------------	-------------------------------	--------------------------	---------------------------	--------------------------------------

61. Problems outside of school - on the job, conflict with parents, etc., cause me not to do work for this class.
62. I try to think through a topic and decide what I am supposed to learn from it when beginning an assignment.
63. Even when study materials are dull and not interesting, I manage to keep working until I finish.
64. I feel confused and undecided as to what my goals for this course should be.
65. I learn new words or ideas by imaging a situation in which they occur.
66. I come to class prepared.
67. When studying for an exam, I think of questions that might be on the test.
68. I would rather not be in this class.
69. The notes I take as I read my assignments are helpful when I review the material.
70. I do poorly on tests in this class because I find it hard to plan my work within a short period of time.

Not at all like me A	Not very much like me B	Somewhat like me C	Very much like me D	Not applicable to this class E
----------------------------	-------------------------------	--------------------------	---------------------------	--------------------------------------

71. I try to think of possible test questions when studying my class material.
72. I only study for this course when there is the pressure of a test.
73. I change the material I am studying into my own words.
74. I compare class notes with other students to make sure my notes are correct.
75. I am very tense when I study for this course.
76. I look over my notes or homework before the next class.
77. I have trouble summarizing what I have just heard in class or read in a textbook.
78. I work hard to get a good grade, even when I don't like a class.
79. I often feel like I have little control over what happens to me in this class.
80. I stop often while reading for this class and think over or review what has been said.

Not at all like
me
A

Not very much
like me
B

Somewhat like
me
C

Very much like
me
D

Not applicable
to this class
E

81. Even when I am well prepared for a test in this class, I feel very upset when taking it.
82. When I study a topic I try to make the ideas fit together and make sense.
83. I talk myself into believing some excuse for not doing a homework assignment.
84. When I study for this class, I have trouble figuring out just what to do to learn the material.
85. When I begin a test, I feel pretty sure that I will do well.
86. I check to see if I understand what my teacher is saying during a class period.
87. I do not want to learn a lot of different things in this class. I just want to learn what I need to get a good job.
88. I am sometimes unable to keep my mind on work in this class because I am restless or moody.
89. I try to find connections between what I am learning in this class and what I already know.
90. I set high standards for myself in this class.

Not at all like
me
A

Not very much
like me
B

Somewhat like
me
C

Very much like
me
D

Not applicable
to this class
E

91. I end up "cramming" for every test.
92. I find it hard to pay attention in this class.
93. I key in on the first or last sentences of most paragraphs when reading my assignments.
94. I only study the topics I like.
95. I am distracted from my work in this class very easily.
96. I try to find connections between what I am studying in this class and my own experiences.
97. I make good use of study hours for this class after school.
98. When work is difficult in this class I either give up or study only the easy parts.
99. I make drawings or sketches to help me understand what I am studying in this class.
100. I dislike most of the work in this class.

ID #				
Not at all like me A	Not very much like me B	Somewhat like me C	Very much like me D	Not applicable to this class E

101. I have trouble understanding just what a test question is asking.
102. I make simple charts, diagrams, or tables to pull together material in my classes.
103. While I am taking tests in this class, worrying about doing poorly gets in the way of keeping focused.
104. I don't understand some of the material in this class because I do not listen carefully.
105. I read textbooks assigned for this class.
106. I feel very panicky when I take an important test in this class.
107. When I decide to do work for this class, I set aside a certain amount of time and stick with it.
108. When I take a test in this class I realize I have studied the wrong material.
109. It is hard for me to know what is important to remember in the textbook(s) for this class.
110. I pay attention fully when studying for this class.

Not at all like me A	Not very much like me B	Somewhat like me C	Very much like me D	Not applicable to this class E
----------------------------	-------------------------------	--------------------------	---------------------------	--------------------------------------

111. I use the headings as a guide to find important ideas in my reading for this class.
112. I get so nervous and confused when taking a test in this class that I don't perform to the best of my ability.
113. I memorize grammatical rules, technical terms, formulas, etc., without understanding them.
114. I test myself to be sure I know the material I have been studying.
115. I put off work for this class more than I should.
116. I try to see how what I am studying for this class would apply to my everyday living.
117. My mind wanders a lot when I do work for this class.
118. In my opinion, what is taught in this class is not worth learning.
119. I go over homework assignments when reviewing class materials.
120. I have a hard time knowing how to study for different types of topics in this class.

ID #				
Not at all like me A	Not very much like me B	Somewhat like me C	Very much like me D	Not applicable to this class E

121. Often when doing work for this class I seem to get lost in details and can't remember the main ideas.
122. When they are available, I go to study or review sessions for this class.
123. I spend so much time with my friends that my work for this class suffers.
124. In taking tests, writing themes, and other classwork, I find I have not understood what the teacher wants and lose points because of it.
125. I try to make connections between various ideas in what I am studying in this class.
126. I have a hard time finding the important ideas in my reading for this class.

Dimensions of Learning: Teacher Self-Assessment of Dimension 1 and 5

The answers to the survey questions in Part I are to be recorded on a green and white "bubble sheet." You must use a #2 pencil. As you fill in the answers, please be sure that the question you are answering matches the number on the bubble sheet. As this is intended to be an anonymous survey, please do not put your name on the bubble sheet.

ID Number

Beginning in the left-hand column, fill in the number corresponding to the Identification code on your Informed consent form.

Column A: Fill in the number "1" under Column A in the special codes section to signify that you are working with the Kittery School Department, ME.

Columns B & C: Fill in the number corresponding to grade level(s) you teach in Columns B & C. Please be sure to use both digits (e.g., if you teach grade 3, you would fill in "0" under Column B and "4" under Column C).

01 - K	09 - 8	17 - 6-8
02 - 1	10 - 9	18 - 9-12
03 - 2	11 - 10	19 - 9-10
04 - 3	12 - 11	20 - 11-12
05 - 4	13 - 12	21 - 1-5
06 - 5	14 - K-1	22 - 7-8
07 - 6	15 - 2-3	23 - K-1
08 - 7	16 - 4-5	

Column D: Fill in the number corresponding to your primary role at the school for which you are filling out this survey in Column D.

1 - Classroom teacher	4 - Ed. Tech I or II
2 - Special educator	5 - Technologist
3 - Certified staff (other than classroom teacher)	

Column E: Fill in the number under Column E that corresponds to the number of years that you have been employed in your present position.

1 - one - three years	4 - eleven - fifteen years
2 - four - six years	5 - sixteen or more years
3 - seven - ten years	

Column F: Fill in the number under in Column F: That corresponds to the number of years of experience you have had as a teacher or professional educator.

1 - one - three years	4 - eleven - fifteen years
2 - four - six years	5 - sixteen or more years
3 - seven - ten years	

Column G and H: Fill in the number of the current month (e.g. April = 04)

Column I and J: Fill in the number of the current year (e.g. year 2000 = 00)

Please continue with the questions on the back of this page

Part I Directions:

Considering the diversity of students and the variety of situations encountered when teaching *this class* (i.e., the class about which your students completed the Dimensions of Learning (Dim. 1 & 5) survey), please indicate to what level you have implemented the Dimensions of Learning, Dimension 1 strategies listed below. For each strategy, fill-in the appropriate letter (A-E) on the answer sheet indicating your level of implementation defined here.

A	B	C	D	E
I have not used this strategy.	I plan to use this strategy or have used this strategy once or twice.	I have used this strategy often, but have not yet adapted it for various teaching situations	I have used this strategy often, and adapted it for various teaching situations.	I have used this strategy often, adapted it for various teaching situations, and encouraged its use by parents, teachers, or others.

A: Perception of Tasks as Valuable and Interesting

1. Create classroom tasks that relate to students' interests and goals.
2. Use a variety of ways to engage students in classroom tasks
3. Make sure that tasks represent intellectual challenges
4. Allow for student choices
5. Exhibit enthusiasm for material I am presenting
6. Provide anecdotes and interesting asides related to material being presented.
7. Assign only valuable tasks
8. Help students understand how specific knowledge is valuable.
9. Build academic trust between you and your students.

B: Help Students Believe they have the Ability and the Resources to Complete Tasks

10. Monitor and attend to my own attitudes and try to replace negative attitudes with positive ones.
11. Teach students to use positive self-talk.
12. Provide feedback that expresses confidence in student's ability.
13. Provide specific feedback to students that identifies exactly what they did well and what they need to improve.
14. Help students recognize that they have abilities.
15. Help students understand that they have the ability to get the help and resources they need to complete a task.
16. Display inspirational quotes or discuss real or hypothetical examples that show how attitudes and perceptions can enhance learning.

C: Be Clear About Tasks

17. Have students mentally rehearse complex parts of tasks to identify and clear up confusions.
18. Have students explain tasks to each other, articulating and clearing up confusion.
19. Clearly identify the knowledge that tasks address.
20. Provide students with clear expectations of performance levels for tasks.

A I have not used this strategy.	B I plan to use this strategy or have used this strategy once or twice.	C I have used this strategy often, but have not yet adapted it for various teaching situations	D I have used this strategy often, and adapted it for various teaching situations.	E I have used this strategy often, adapted it for various teaching situations, and encouraged its use by parents, teachers, or others.
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D: Create Comfort and Order

21. Allow and encourage varied activities with physical movement.
22. Introduce and model the concept of "bracketing" for maintaining and shifting attention.
23. Establish and communicate classroom rules and procedures.
24. Be aware of and take steps to stop malicious behaviors.
25. Have students identify their own standards for comfort and order.
26. Talk with students to find out why unacceptable behavior is happening.
27. Provide students with feedback about their behavior by identifying the specific behavior that was consistent with rules.
28. Provide students with feedback about their behavior by describing how they contributed to their own success and the success of others.

E: Create Acceptance by Teachers and Peers

29. Talk informally with students, before, during and after class about their interests.
30. Call parents and share anecdotes that focus on something about which parents and students can be proud.
31. Make eye contact with each student in the room.
32. Attribute ownership of ideas to the students who initiated them.
33. Provide 5 second wait time of student responses.
34. Allow and encourage all students to be part of discussions and interactions.
35. Engage in equitable and positive behaviors with students.
36. Recognize and provide for individual differences.
37. Dignify student contributions and responses.
38. Use alternative ways to positively reinforce correct responses.
39. Use structured "get-to-know" activities periodically throughout the year.
40. Monitor and attend to your attitudes toward each student.
41. Monitor and attend to your level of expectations for each student.
42. Develop student's own ability to gain acceptance from others.
43. Teach students the skills necessary for group interactions.
44. Structure group work so that every student has a responsible role in completing the task.
45. Structure group work so that each student acquires targeted knowledge.

Thank you. Please continue on to the Self-Assessment of Dimension 5.

Teacher Self-Assessment of Dimension 5: Habits of Mind

Part II Introduction. When reviewing your implementation of Dimension 5 (Habits of Mind) in *this class* (i.e., the class about which your students completed Dimensions of Learning (Dim. 1 & 5) surveys), please consider each of the three categories of habits of mind: **Critical thinking**, **Creative thinking**, and **Self-regulated thinking** as defined here.

Critical thinking is the determination to maintain an open mind, to go deeper and beyond the obvious, and to respond appropriately to others' perspectives and the situation. Particular **critical thinking** habits include:

- Be accurate and seek accuracy
- Be clear and seek clarity
- Maintain an open mind
- Restrain impulsivity
- Take a position when warranted
- Respond appropriately to others' feelings and level of knowledge

Creative thinking is the determination to persevere and generate new ways, knowledge, and conventions. **Creative thinking** habits of mind include:

- Persevere
- Push the limits of your knowledge and abilities
- Generate, trust, and maintain your own standards of evaluation
- Generate new ways of viewing a situation that are outside the boundaries of standard conventions

Self-regulated thinking is the determination to take responsibility for one's own thinking, planning, resources, and actions. **Self-regulated thinking** habits of mind include:

- Monitor your own thinking
- Plan appropriately
- Identify and use necessary resources
- Respond appropriately to feedback
- Evaluate the effectiveness of your actions

Part II Directions. Given the previous descriptions of *Habits of Mind*, answer #45 – 48 using the following stem:

What percent of your total teaching time for **this class** (i.e., the class about which your students completed the Dimensions of Learning (Dim. 1 & 5) survey) (including: preparation, assessing students, teaching & interacting with students, etc.) . . .

45. do you spend on developing students' *critical thinking habits of mind*?

A - 0% B - 10% C - 20% D - 30% E - 40% or more

47. do you spend on developing students' *creative thinking habits of mind*?

A - 0% B - 10% C - 20% D - 30% E - 40% or more

48. do you spend on developing students' *self-regulated thinking habits of mind*?

A - 0% B - 10% C - 20% D - 30% E - 40% or more

Part III Directions. How do you develop students' habits of mind? Given the diversity of students and the variety of situations and contexts in which you teach **this class** (i.e., the class about which students completed the Dimensions of Learning (Dim. 1 & 5) survey), please indicate what level you have implemented Dimension 5 strategies listed below to help students develop habits of mind. For each strategy suggested, fill-in the appropriate letter (A – E) indicating your level of implementation defined here.

A	B	C	D	E
I have not used this strategy.	I plan to use this strategy or have used this strategy once or twice.	I have used this strategy often, but have not yet adapted it for various teaching situations	I have used this strategy often, and adapted it for various teaching situations.	I have used this strategy often, adapted it for various teaching situations, and encouraged its use by parents, teachers, or others.

Develop student understanding of Habits of Mind (including critical thinking, creative thinking, self-regulation)

49. Facilitate classroom discussion about the meaning of *habits of mind*.

50. Use examples from literature and current events of people who are using *habits of mind* in different situations.

51. Share personal anecdotes that relate to *habits of mind*.

52. Ask students to share their own *habits of mind*.

53. Develop and display posters, icons, and other visual representations to express the importance of productive *habits of mind*.

54. Ask students to identify personal heroes or mentors and describe the extent to which they exemplify *habits of mind*.

55. Have students create posters that illustrate their understanding of *habits of mind*.

Model Habits of Mind

56. Model *habits of mind* as you go about teaching and interacting with students.

57. Use think-aloud to demonstrate and explain *habits of mind*.

Reinforce and strengthen productive student Habits of Mind

58. Each quarter or semester, ask students to identify and focus on a particular *habit of mind* that they would like to develop.

59. Point out positive examples of *habits of mind* when students exhibit them.

60. Integrate *habits of mind* into typical classroom learning activities.

61. Remind students to focus on a specific *habit of mind* or ask them to identify habits that would help them while working.

62. Appoint "process observers," students who watch for positive examples of other students who are demonstrating *habits of mind*.

63. Ask students to self-assess their use of specific *habits of mind*.

64. Give students feedback on their *habits of mind* on a report card or progress report.

65. In WRITE-IN AREA #1 on the FRONT side of the "bubble" sheet, list other strategies not mentioned, or curriculum structures and/or policies that you have found useful for developing students productive Habits of Mind (including Critical Thinking, Creative Thinking and Self-regulated Thinking).

Part IV Directions. Please answer the following questions about the process of learning to implement *Dimensions of Learning*, *Dimensions 1 and 5*.

66. What steps have you taken to help you implement Dimensions 1 & 5? Use WRITE-IN AREA #2 on the "bubble" sheet to write your answer.

67. What kinds of support and resources would be useful to you for continuing to implement Dimensions 1 and 5? Use WRITE-IN AREA #3 on the back side of the "bubble" sheet to write your answer.

68. What do you see as the biggest barrier to doing more implementation of Dimensions 1 and 5? Fill-in the letter that corresponds to your answer.

- A. Limited practical staff development
- B. No one else is; I'd be perceived as different
- C. Not enough knowledge yet
- D. Lack of opportunity
- E. Lack of support

98. List any other barriers you see to doing more implementation of Dimensions 1 and 5. Use WRITE-IN AREA #4 on the back side of the "bubble" sheet.

Thank you.

APPENDIX B

Dimension 1 Student Scales

Gr. K-2 Dim 1 Student Scales

Class Tasks (alpha = .41)

- Item 1: Students seem to like my classroom
- Item 3: Students like their schoolwork in my classroom.
- Item 7: Students are allowed to get up and move around when they need to.

Class Climate (alpha = .65)

- Item 5: The classroom is fun
- Item 6: Class activities are interesting to me.
- Item 8: I know what to do in my schoolwork to get good grades in this classroom.
- Item 9: My teacher likes me.
- Item 10: My teacher is interested in me.

Note: Negatively worded items (#2 and #4) reduced reliability and were omitted.

Gr. 3-5 Dim. 1 Student Scales

Cohesiveness (MCI) (alpha = .77)

- Item 5: In my classroom everybody is my friend.
- Item 10: Some people in my classroom are not my friends.
- Item 15: All students in my classroom are close friends.
- Item 20: All of the students in my classroom like one another.
- Item 25: Students in our classroom like each other as friends.

Satisfaction (MCI) (alpha = .75)

- Item 1: The students enjoy their schoolwork in my classroom.
- Item 6: Some students are not happy in my classroom.
- Item 11: Students seem to like the classroom
- Item 16: Some of the students don't like the classroom.
- Item 21: The classroom is fun.

Tasks as Valuable/Interesting (alpha = .68)

- Item 27: The information that I am learning in this classroom is valuable.
- Item 35: We often do different or new kinds of activities in this classroom.
- Item 37: The activities in this classroom are related to my goals.
- Item 39: The work in this classroom is related to things that I am interested in.

Gr. 6-8 Dim 1 Student Scales (based on 111-223 student surveys)

Personalization (ICEQ) (alpha = .77)

- Item 1: The teacher talks with each student.
- Item 6: The teacher takes a personal interest in each student.
- Item 11: The teacher is unfriendly to students.
- Item 16: The teacher helps each student who is having trouble with work.
- Item 21: The teacher considers students' feelings.

Participation (ICEQ) (alpha = .68)

- Item 2: Students give their opinions during discussions.
- Item 7: The teacher lectures without students asking or answering questions.
- Item 12: Students' ideas and suggestions are used during classroom discussion.
- Item 17: Students ask the teacher questions during class.
- Item 22: There is classroom discussion.

Tasks as Valuable/Interesting (6-8) (alpha = .84)

- Item 44: The activities in this classroom are related to goals that I want to achieve.
- Item 46: I can see how what I'm being taught relates to things I have to do in life.
- Item 49: I see the value in what we're being taught.
- Item 50: I think the things we're doing in class are interesting.

Clarity of Expectations (6-8) (alpha = .70)

- Item 45: I know what I need to do to get an A,B, or C.
- Item 48: When doing a project for this teacher, I know what I have to do to get a good grade.

Gr. 9-12 Dim. 1 Student Scales (based on 204-213 student surveys)

Involvement (CES) (alpha = .72)

- Item 7: Students daydream a lot in this class.
- Item 16: Students don't do much work in this class.
- Item 22: This class is more a social hour than a place to learn something.
- Item 1: Students put a lot of energy into what they do here.
- Item 13: Students are often "clockwatching" in this class
- Item 19: Most students in this class really pay attention to what the teacher is saying.

Order and Organization (CES) (alpha = .69)

- Item 17: Students fool around a lot in this class.
- Item 23: This class is often very noisy.
- Item 11: Students are almost always quiet in this class.
- Item 5: This is a well-organized class.

Tasks as Valuable/Interesting (alpha = .89)

- Item 28: The information that we are learning in this classroom is valuable.
- Item 37: The activities in this classroom are related to goals that I want to achieve.
- Item 39: I see the value in what we are being taught.
- Item 43: I can see how what I'm being taught relates to things I have to do in life.
- Item 45: I think the things we're doing in class are interesting.

Accepting Environment (alpha = .70)

- Item 31: Students ask the teacher questions.
- Item 32: There is classroom discussion.
- Item 38: Students' ideas and suggestions are used during classroom discussion.
- Item 42: The teacher is unfriendly to students.

Dimension 1 Teacher Scales

Create Valuable Tasks ($\alpha = .86$)

- Item 1: Create classroom tasks that relate to students' interests and goals.
- Item 2: Use a variety of ways to engage students in classroom tasks.
- Item 3: Make sure that tasks represent intellectual challenges.
- Item 4: Allow for student choices.
- Item 5: Exhibit enthusiasm for material I am presenting.
- Item 6: Provide anecdotes and interesting asides related to material being presented.
- Item 7: Assign only valuable tasks.
- Item 8: Help students understand how specific knowledge is valuable.
- Item 9: Build academic trust between you and your students.

Develop Student Efficacy ($\alpha = .87$)

- Item 10: Monitor and attend to my own attitudes and try to replace negative attitudes with positive ones.
- Item 11: Teach students to use positive self-talk.
- Item 12: Provide feedback that expresses confidence in student's ability.
- Item 13: Provide specific feedback to students that identifies exactly what they did well and what they need to improve.
- Item 14: Help students recognize that they have abilities.
- Item 15: Help students understand that they have the ability to get the help and resources they need to complete a task.

Be Clear About Tasks ($\alpha = .77$)

- Item 17: Have students mentally rehearse complex parts of tasks to identify and clear up confusion.
- Item 18: Have students explain tasks to each other, articulating and clearing up confusion.
- Item 19: Clearly identify the knowledge that tasks address.
- Item 20: Provide students with clear expectations of performance levels for tasks.

Create Comfort and Order ($\alpha = .88$)

- Item 23: Establish and communicate classroom rules and procedures.
- Item 24: Be aware of and take steps to stop malicious behaviors.
- Item 25: Have students identify their own standards for comfort and order.
- Item 26: Talk with students to find out why unacceptable behavior is happening.
- Item 27: Provide students with feedback about their behavior by identifying the specific behavior that was consistent with rules.
- Item 28: Provide students feedback about their behavior by describing how they contributed to their own success and the success of others.

Develop Acceptance by Teacher ($\alpha = .89$)

- Item 29: Talk informally with students, before, during and after class about their interests.
- Item 30: Call parents and share anecdotes that focus on something about which parents and students can be proud. (for grades K-5 only)
- Item 31: Make eye contact with each student in the room.
- Item 32: Attribute ownership of ideas to the students who initiated them.
- Item 34: Allow and encourage all students to be part of discussion and interactions.
- Item 35: Engage in equitable and positive behaviors with students.
- Item 36: Recognize and provide for individual differences.
- Item 37: Dignify student contributions and responses.
- Item 38: Use alternative ways to positively reinforce correct responses.

Develop Acceptance by Peers ($\alpha = .90$)

- Item 43: Teach students the skills necessary for group interactions.
- Item 44: Structure group work so that every student has a responsible role in completing the task.
- Item 45: Structure group work so that each student acquires targeted knowledge.
- Item 42: Develop student's own ability to gain acceptance from others.
- Item 39: Use structured "get-to-know" activities periodically throughout the year.
- Item 41: Monitor and attend to your level of expectations for each student.
- Item 40: Monitor and attend to your attitudes toward each student.

Dimension 5 Student Scales

Grades 6-8 Dim 5 Student Scales

Critical Thinking (alpha = .72)

- Item 51: I try to be clear about what I read.
- Item 52: I ask questions when I don't understand what I hear, read and see in my class.
- Item 53: I have an open mind about information.
- Item 54: I stop to think before I speak or act.
- Item 55: I speak up when I believe in something.
- Item 56: I am sensitive to the feelings and abilities of others.

Creative Thinking (alpha = .73)

- Item 57: I am likely to give up when a task in this class becomes difficult.
- Item 58: I am working as hard as I can to learn in my class.
- Item 59: I am not working very hard in my class because the material is easy.
- Item 60: I always set high standards for myself in this class.

Dimension 5 Teaching Strategies

Develop Understanding of Habits of Mind ($\alpha = .87$)

- Item 49: Facilitate classroom discussion about the meaning of *habits of mind*.
- Item 50: Use examples from literature and current events of people who are using *habits of mind* in different situations.
- Item 51: Share personal anecdotes that relate to *habits of mind*.
- Item 52: Ask students to share their own *habits of mind*.
- Item 53: Develop and display posters, icons, and other visual representations to express the importance of productive *habits of mind*.
- Item 54: Ask students to identify personal heroes or mentors and describe the extent to which they exemplify *habits of mind*.
- Item 55: Have students create posters that illustrate their understanding of *habits of mind*.

Model Habits of Mind ($\alpha = .72$)

- Item 56: Model *habits of mind* as you go about teaching and interacting with students.
- Item 57: Use think-aloud to demonstrate and explain

Reinforce and Strengthen Habits of Mind ($\alpha = .79$)

- Item 58: Each quarter or semester, ask students to identify and focus on a particular *habit of mind* that they would like to develop.
- Item 59: Point out positive examples of *habits of mind* when students exhibit them.
- Item 60: Integrate *habits of mind* into typical classroom learning activities.
- Item 61: Remind students to focus on specific *habit of mind* or ask them to identify habits that would help them while working.
- Item 63: Ask students to self-assess their use of specific *habits of mind*.

LASSI - HS Subscales and Items
(grades 9-12)

Motivation (alpha = .77)

- Item 60: I am up-to-date in my class assignments.
- Item 63: Even when study materials are dull and not interesting, I manage to keep working until I finish.
- Item 66: I come to class unprepared
- Item 78: I work hard to get a good grade, even when I don't like a class.
- Item 83: I talk myself into believing some excuse for not doing a homework assignment.
- Item 90: I set high standards or goals for myself in school.
- Item 98: When work is difficult I either give up or study only the easy parts.
- Item 105: I read textbooks assigned for my class.

Information Processing (alpha = .83)

- Item 62: I try to think through a topic and decide what I am supposed to learn from it rather than just read it over when doing schoolwork.
- Item 65: I learn new words or ideas by imagining a situation in which they occur.
- Item 73: I change the material I am studying into my own words.
- Item 82: When I study a topic I try to make the ideas fit together and make sense.
- Item 89: I try to find connections between what I am learning and what I already know.
- Item 96: I try to find connections between what I am studying and my own experiences.
- Item 116: I try to see how what I am studying would apply to my everyday living.
- Item 125: I try to make connections between various ideas in what I am studying.

Self Testing (alpha = .87)

- Item 54: After a class, I look over my notes to help me understand the information.
- Item 67: When studying for an exam, I think of questions that might be on a test.
- Item 71: I try to think of possible test questions when studying my class material.
- Item 76: I look over my notes before the next class.
- Item 80: I stop often while reading and think over or review what has been said.
- Item 86: I check to see if I understand what my teacher is saying during a class period.
- Item 114: I test myself to be sure I know the material I have been studying.
- Item 119: I go over homework assignments when reviewing class materials.

Attitude (alpha = .80)

- Item 64: I feel confused and undecided as to what my goals for this course should be.
- Item 65: I learn new words or ideas by imagining a situation in which they occur.
- Item 68: I would rather not be in this class.
- Item 79: I often feel like I have little control over what happens to me in this class.
- Item 87: I do not want to learn a lot of different things in this class. I just want to learn what I need to get a good job.
- Item 94: I only study the topics I like.
- Item 100: I dislike most of the work in this class.
- Item 118: In my opinion, what is taught in this class is not worth learning.

Anxiety (alpha = .83)

- Item 51: I worry that I will fail in this class.
- Item 59: I get discouraged because of low grades.
- Item 75: I am very tense when I study for this course.
- Item 81: Even when I am well prepared for a test in this class, I feel very upset when taking it.
- Item 85: When I begin a test, I feel pretty sure that I will do well.
- Item 103: While I am taking tests in this class, worrying about doing poorly gets in the way of keeping focused.
- Item 106: I feel very panicky when I take an important test in this class.
- Item 112: I get so nervous and confused when taking a test in this class that I don't perform to the best of my ability.

Concentration (alpha = .80)

- Item 56: I find that when my teacher is teaching I think of other things and don't really listen to what is being said.
- Item 61: Problems outside of school, on the job, conflict with parents, etc., cause me not to do work for this class.
- Item 88: I am sometimes unable to keep my mind on work in this class because I am restless or moody.
- Item 92: I find it hard to pay attention in this class.
- Item 95: I am distracted from my work in this class very easily.
- Item 104: I don't understand some of the material in this class because I do not listen carefully.
- Item 110: I pay attention fully when studying for this class.
- Item 117: My mind wanders a lot when I do work for this class.

Study Aids ($\alpha = .75$)

- Item 57: I use special study helps, such as italics and headings, that are in my textbook or other learning materials.
- Item 69: The notes I take as I read my assignments are helpful when I review that material.
- Item 74: I am very tense when I study for this course.
- Item 93: I key in on the first or last sentences of most paragraphs when reading my assignments.
- Item 99: I make drawings or sketches to help me understand what I am studying in this class.
- Item 111: I use the headings as a guide to find important ideas in my reading for this class.
- Item 122: When they are available, I go to study or review sessions for this class.

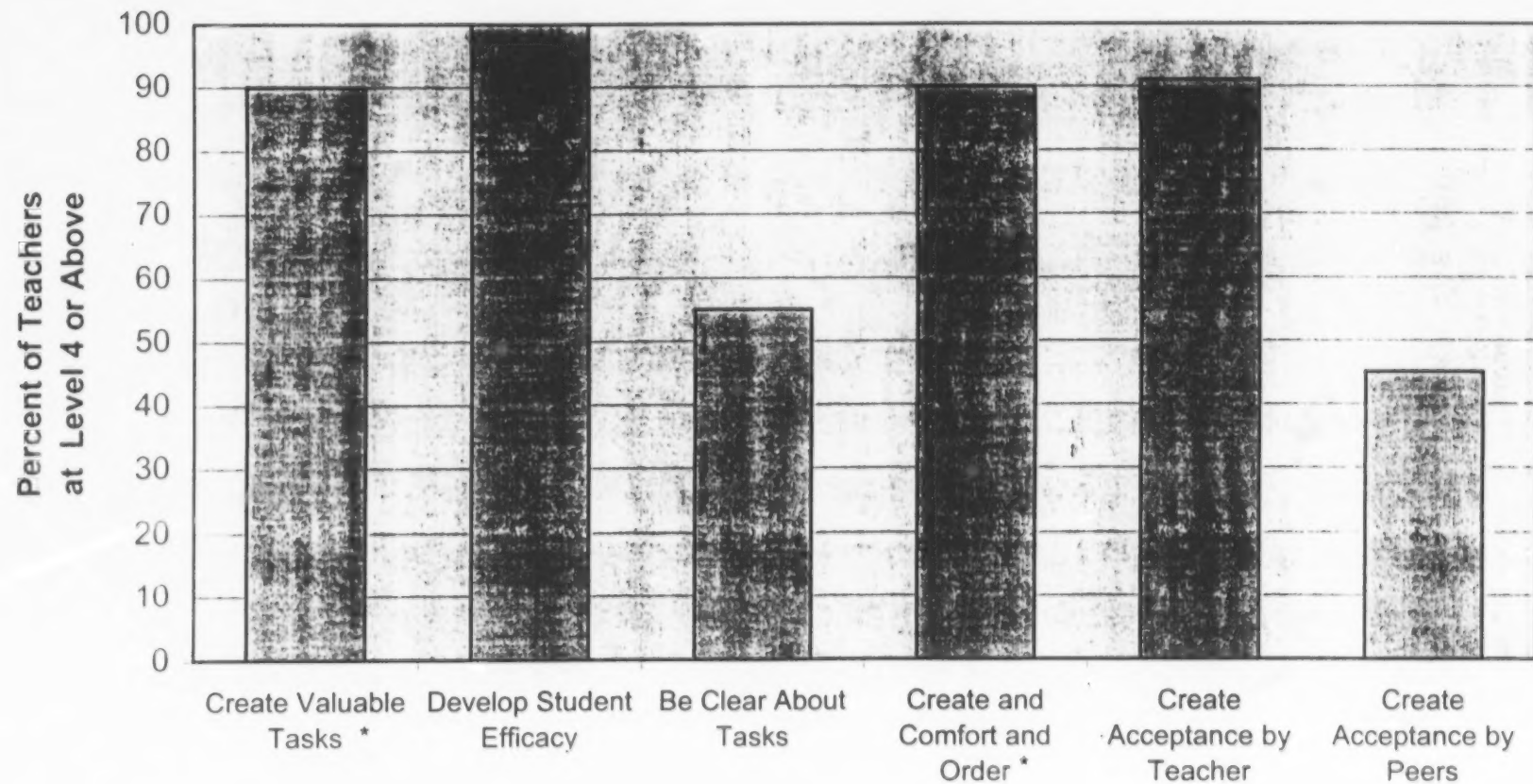
Test Strategies ($\alpha = .88$)

- Item 70: I do poorly on tests in this class because I find it hard to plan my work within a short period of time.
- Item 77: I have trouble summarizing what I have just heard in class or read in a textbook.
- Item 84: When I study for this class, I have trouble figuring out just what to do to learn the material.
- Item 101: I have trouble understanding just what a test question is asking.
- Item 108: When I take a test in this class I realize I have studied the wrong material.
- Item 113: I memorize grammatical rules, technical terms, formulas, etc., without understanding them.
- Item 120: I have a hard time knowing how to study for different types of topics in this class.
- Item 124: In taking tests, writing themes, and other classwork, I find I have not understood what the teacher wants and lose points because of it.

APPENDIX C

C-1

Franklin Teachers Level of Use (4 or Above) for Dimension 1 Teaching Strategies



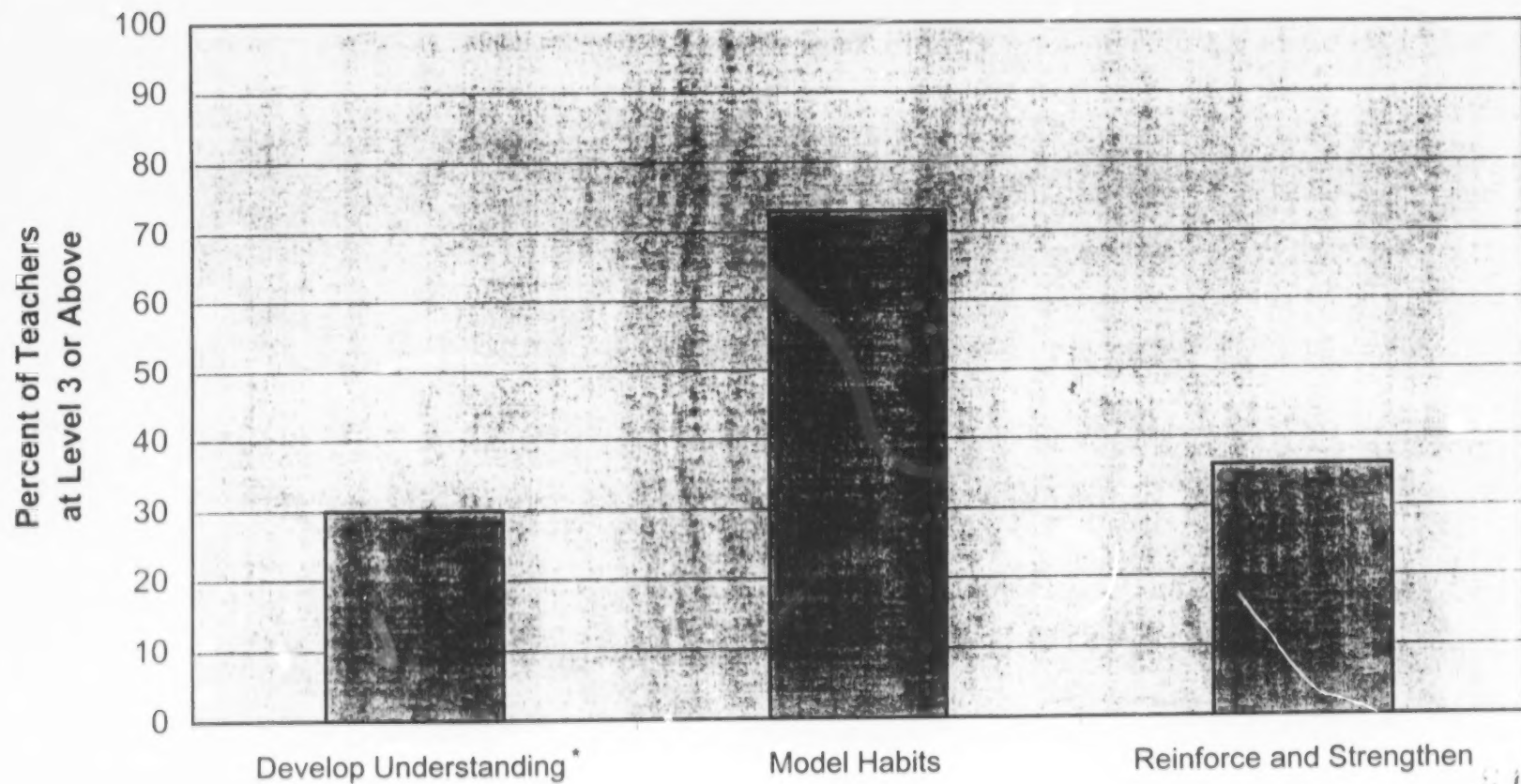
Total Teachers N=11

* Total Teachers N=10

Teaching Strategies

Note: Level 4 indicates that strategy is used often and adapted to various teaching situations.

Franklin Teachers Level of Use (3 or Above) for Dimension 5 Teaching Strategies



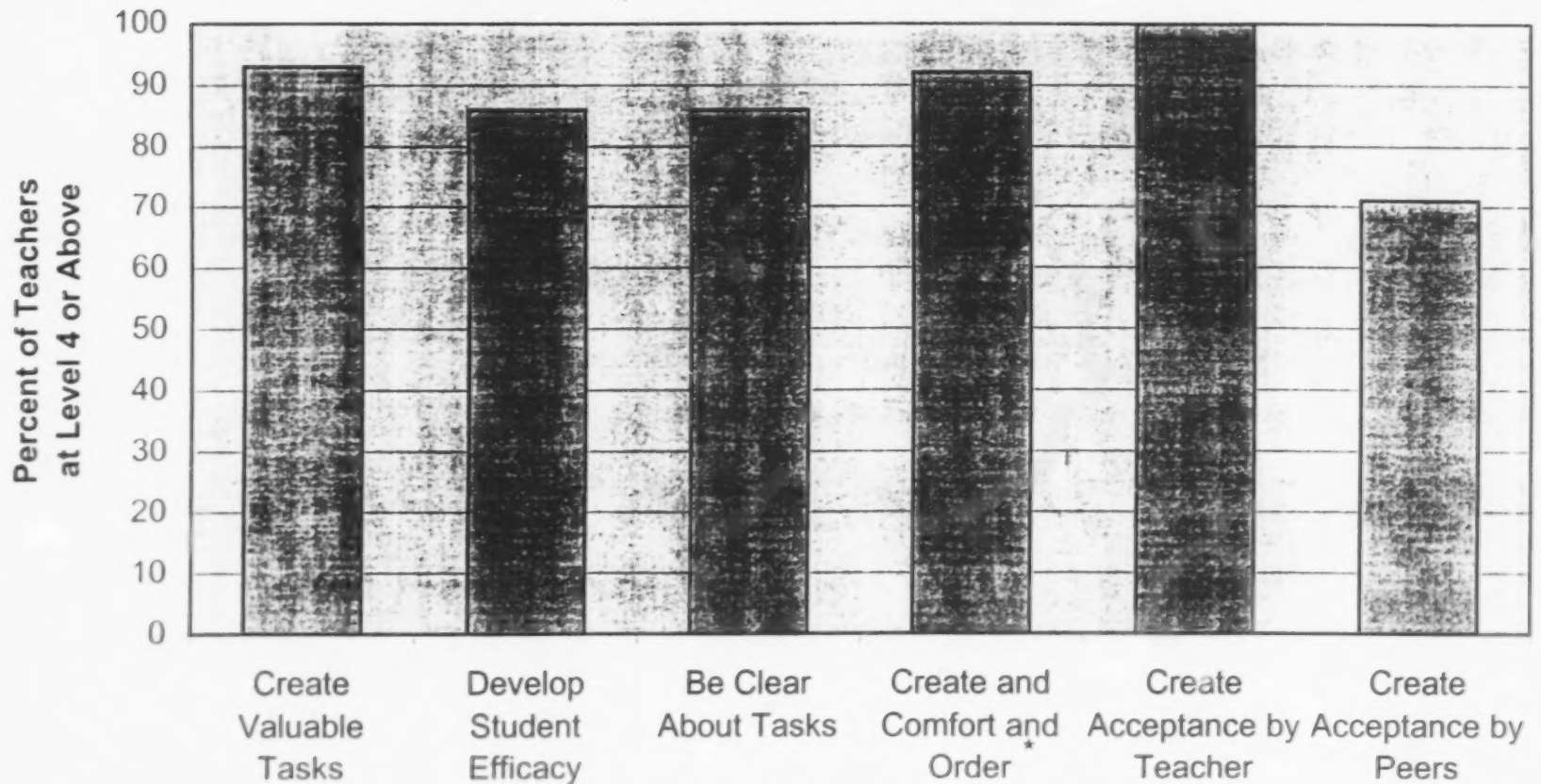
Total Teachers N=11

* Total Teachers N=10

Teaching Strategies for Developing Habits of Mind

Note: Level 3 indicates that strategy is used but is not adapted to various teaching situations

Morgan Teachers Level of Use (4 or Above) for Dimension 1 Teaching Strategies



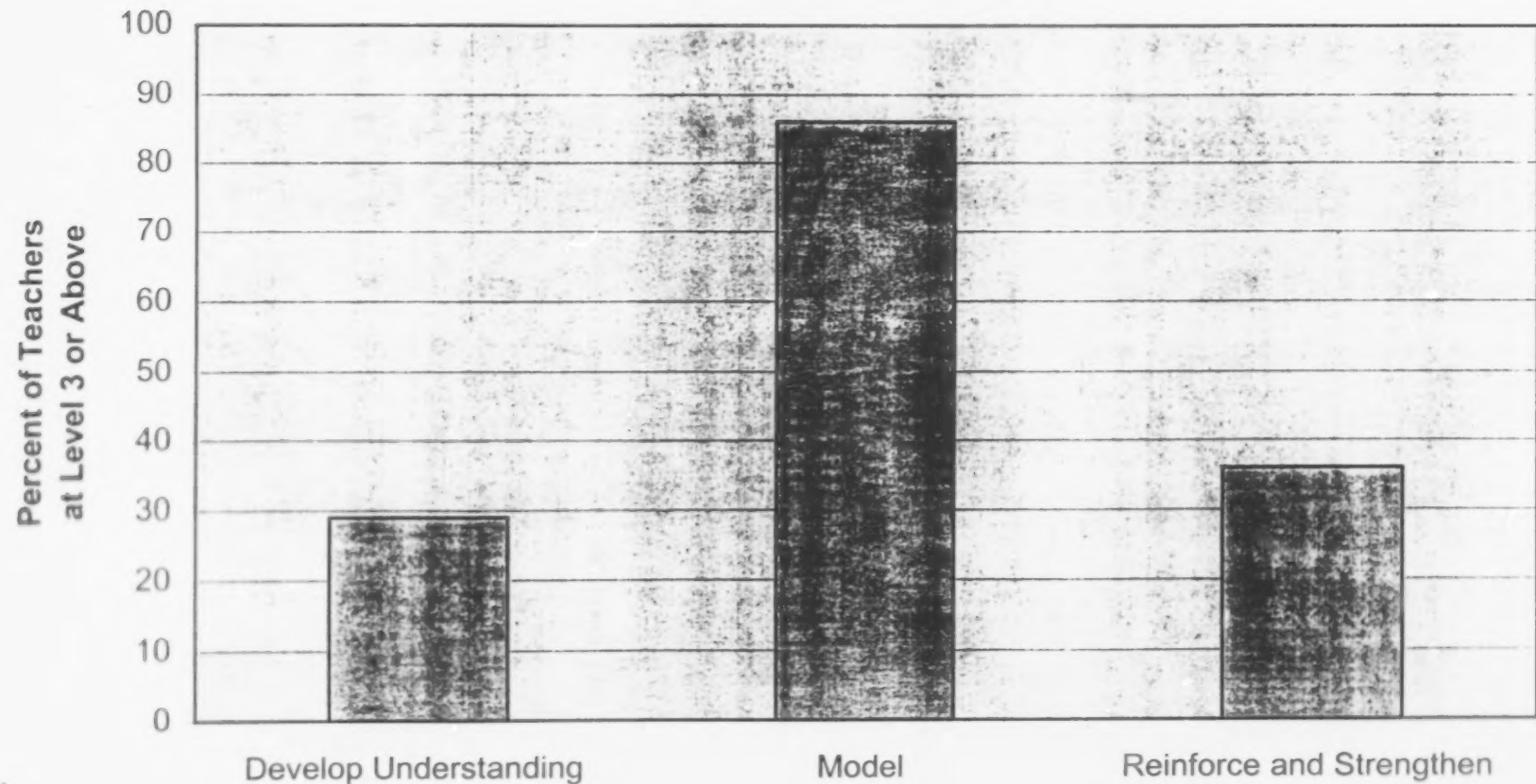
Total Teachers N = 14

* Total Teachers N = 13

Teaching Strategies

Note: Level 4 indicates that strategy is used often and adapted to various teaching situations.

**Morgan Teachers Level of Use (3 or Above)
for Dimension 5 Teaching Strategies**

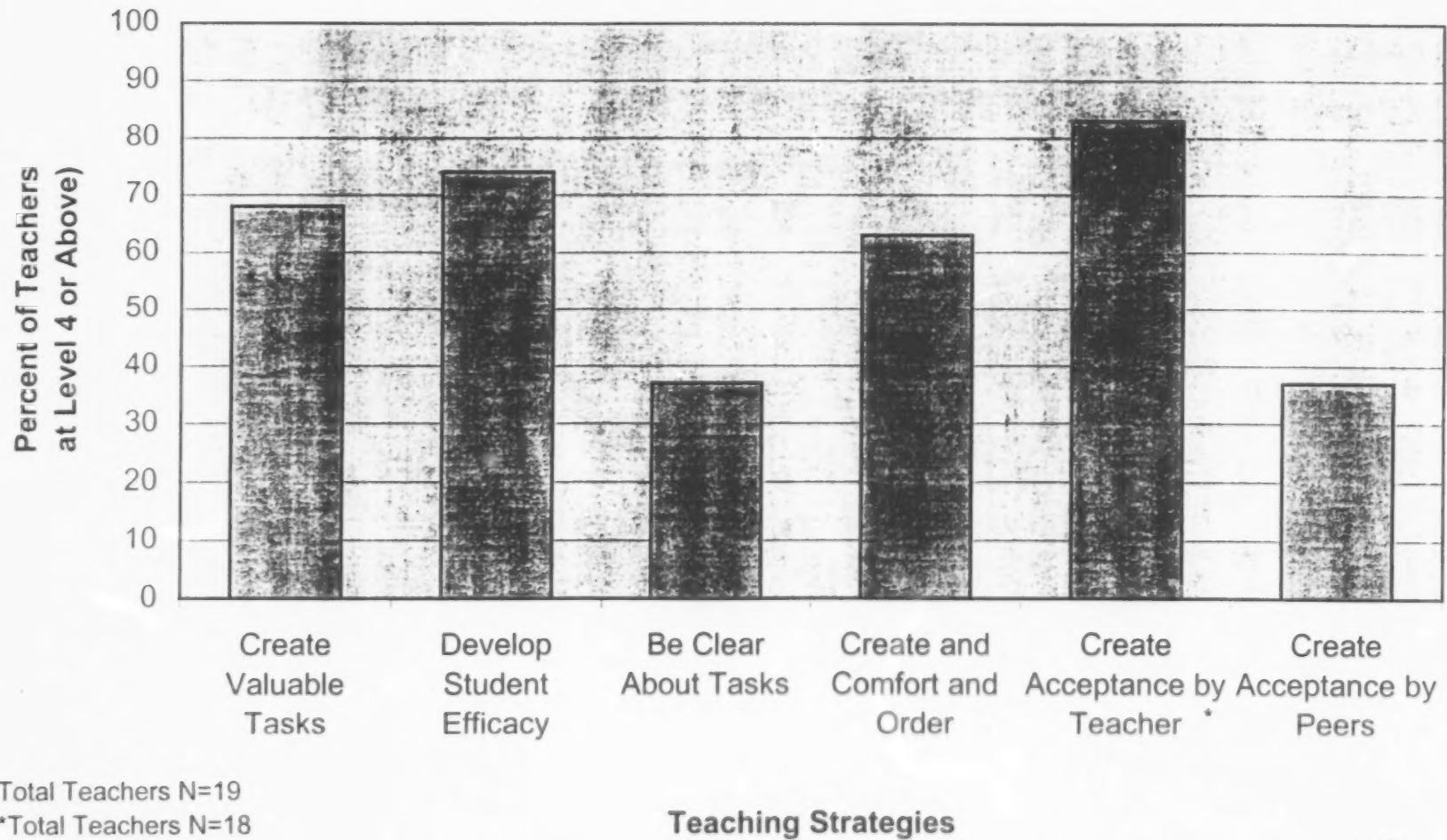


Total Teachers N=14

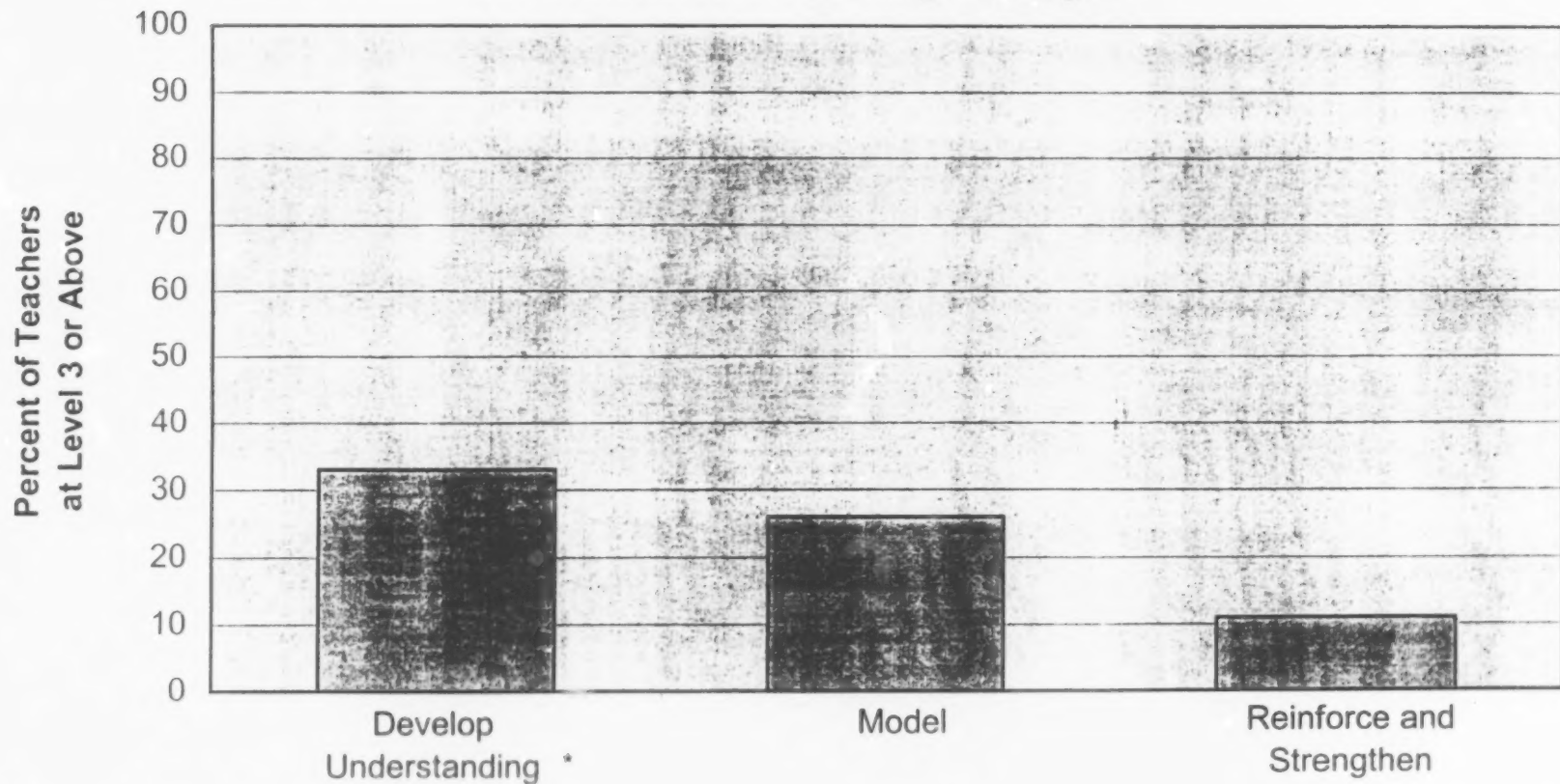
Teaching Strategies for Developing Habits of Mind

Note: Level 3 indicates that strategy is used but is not adapted to various teaching situations

Sutton Teachers Level of Use (4 or Above) for Dimension 1 Teaching Strategies



Sutton S Teachers Level of Use (3 or Above) for Dimension 5 Teaching Strategies



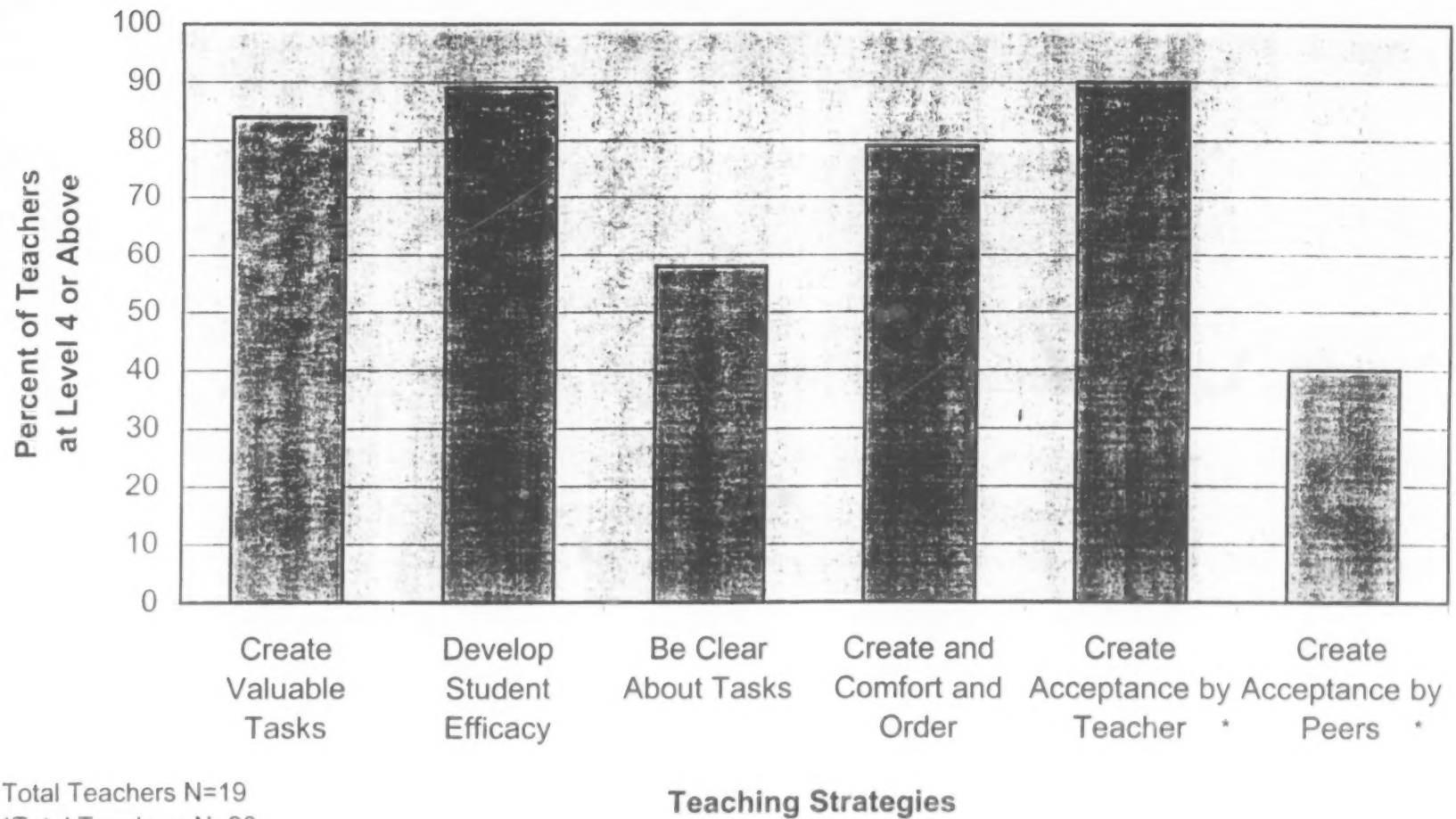
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*Total Teachers N=18

Teaching Strategies for Developing Habits of Mind

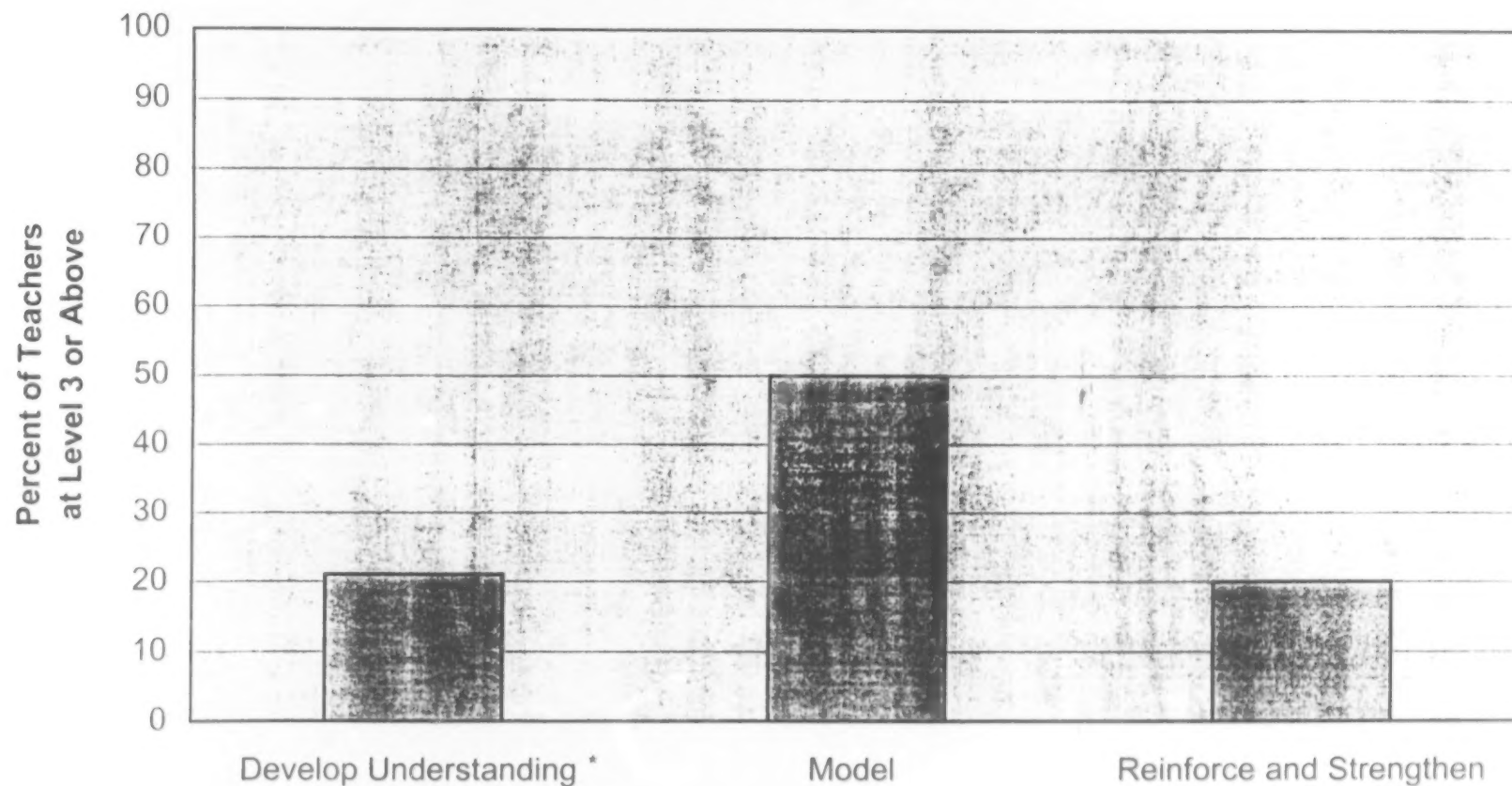
Note: Level 3 indicates that strategy is used but is not adapted to various teaching situations

Turner Teachers Level of Use (4 or Above) for Dimension 1 Teaching Strategies



Note: Level 4 indicates that strategy is used often and adapted to various teaching situations.

Turner Teachers Level of Use (3 or Above) for Dimension 5 Teaching Strategies



Total Teachers N=20

*Total Teachers N=19

Teaching Strategies for Developing Habits of Mind

Note: Level 3 indicates that strategy is used but is not adapted to various teaching situations